User Manual

CONVISION Cymanager

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Convision Systems GmbH

Contents

1. Cymanager Overview

- Cymanager is a program to offer real time A/V monitoring with multiple connections to video servers and IP cameras. It also offers various Recording functions plus Search and Playback.

- The program consists of two different programs: **Cymanager** and **Cysearch**. These programs run independently and offer real-time monitoring and playback respectively.

- The Cymanager offers not only Video/Audio monitoring but also Recording, Playback, Event monitoring, Alarm & PTZ Control and Remote set-up function-like features which DVRs offer.

System Requirement

Minimum Spec.

OS: Windows Vista, Windows XP, Windows 2000
CPU: 2GHz or higher
Memory: 1GB or higher
VGA: 256MB RAM or higher

Recommended Spec.

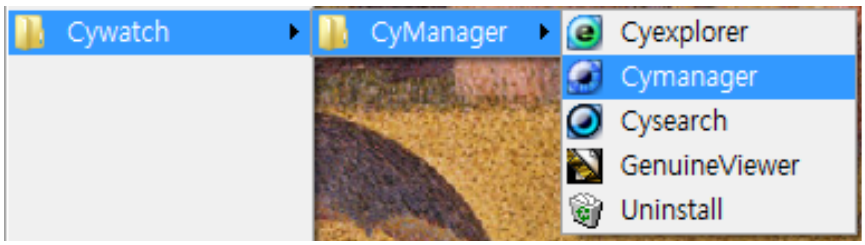
OS: Windows Vista, Windows XP, Windows 2000
CPU: DureCore 3GHz or higher, QuadCore 2.4GHz or higher
Memory: 3GB or higher
VGA: 512MB RAM or higher

2. Installation and Start-up

On successful installation of Cymanager package, the Cymanager icon is created on the Desktop and a program group is created.

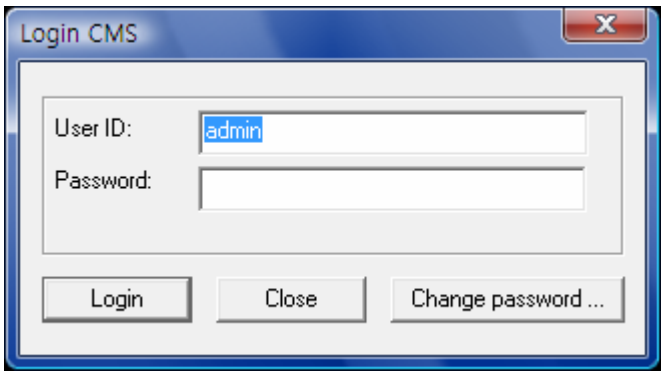
Cymanager Icon

Program Group

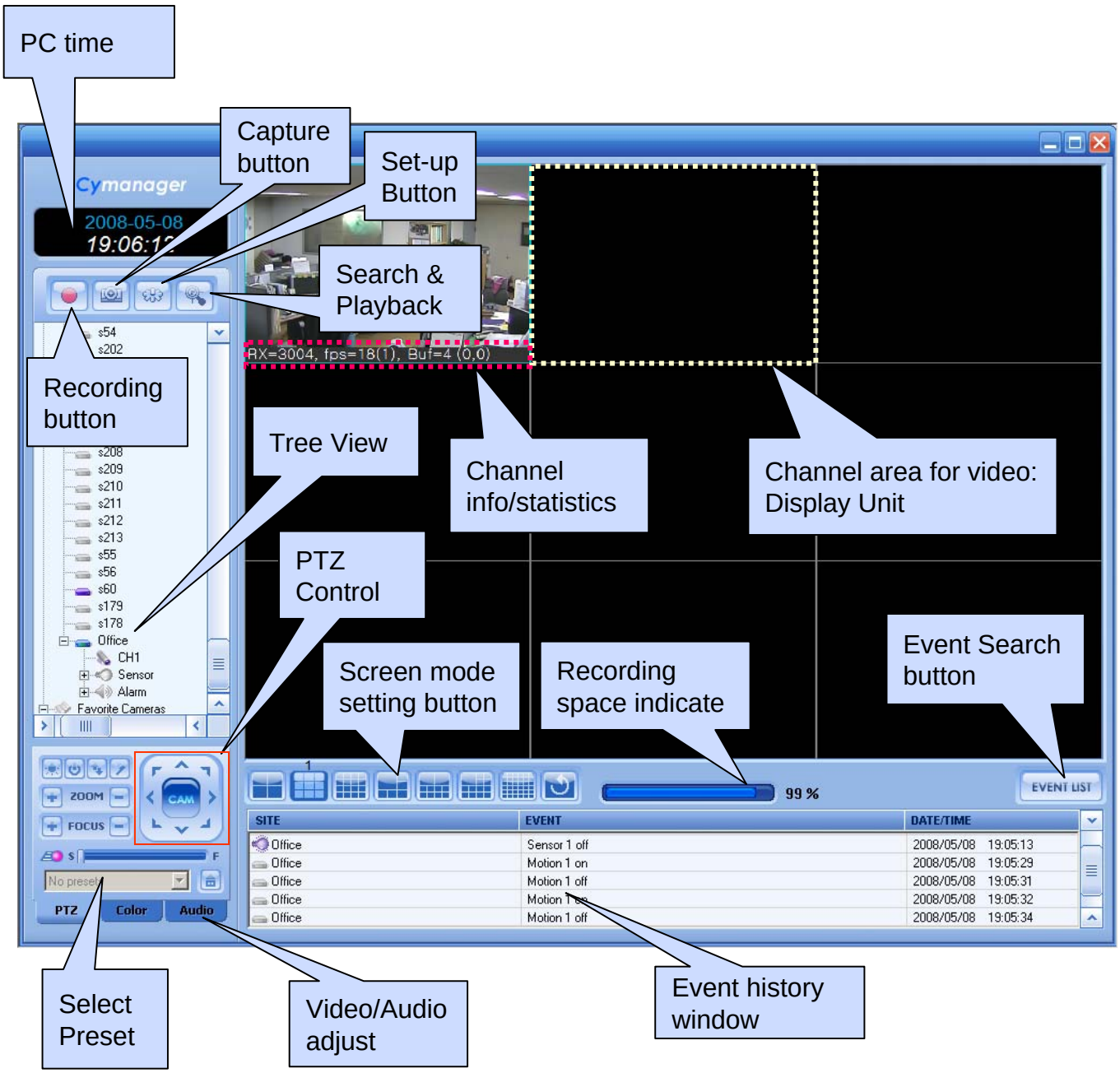


Cymanager is started by double clicking the icon or selecting Cymanager menu in the group.

Login dialog comes first to allow only registered users to use the system.
User ‘admin’ exists by default and its password is blank(none) unless specified differently in the last step of the installation.



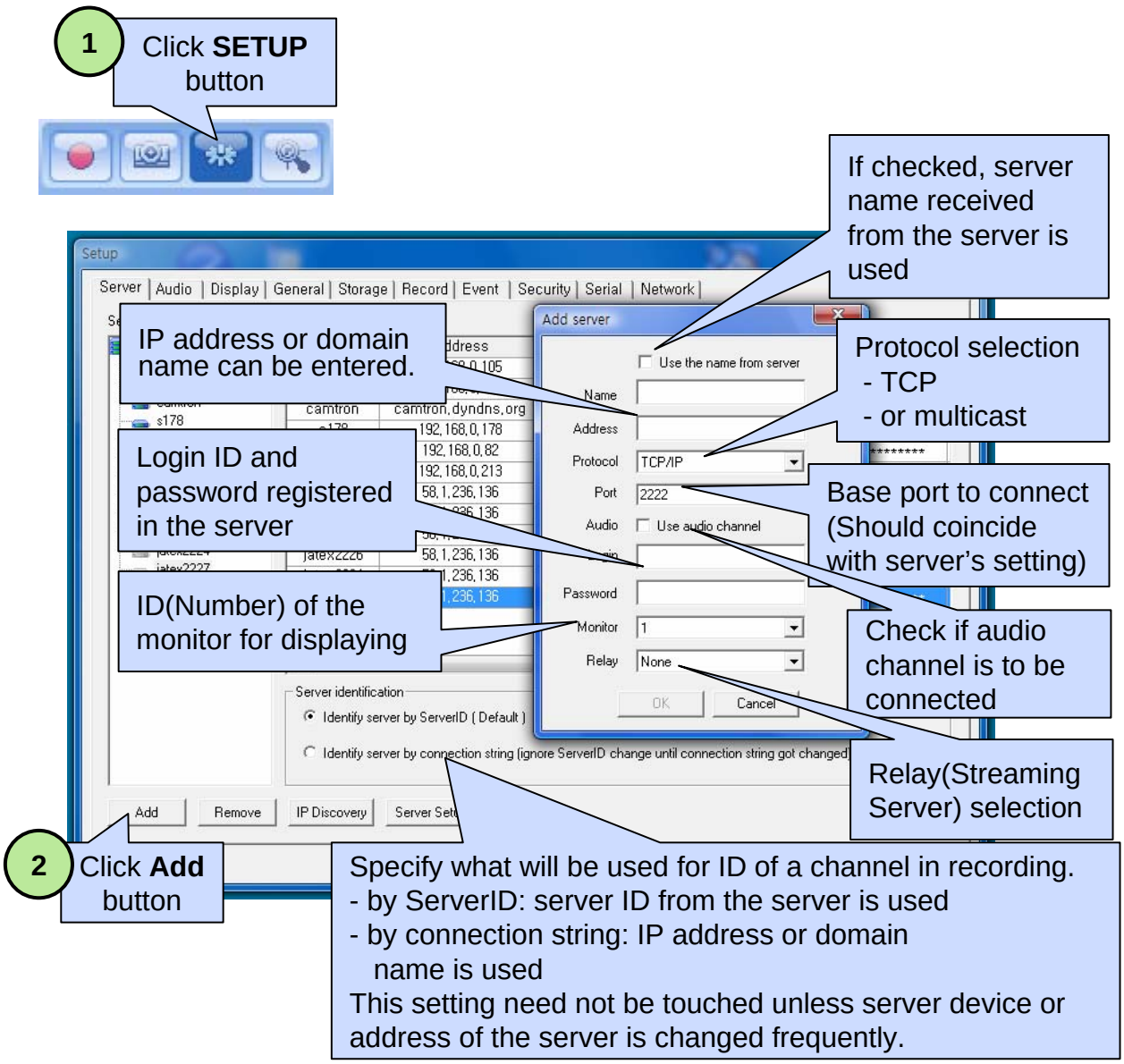
3. Main Screen Configuration



4. Registration & Connection of Server

4.1 Registration of server

Video transmitting device such as video server and IP camera is referred as ‘server’ in this manual. Cymanager connects to servers in order to get audio/video streams and events for viewing and recording.
The first step for connection is to register the server in Cymanager



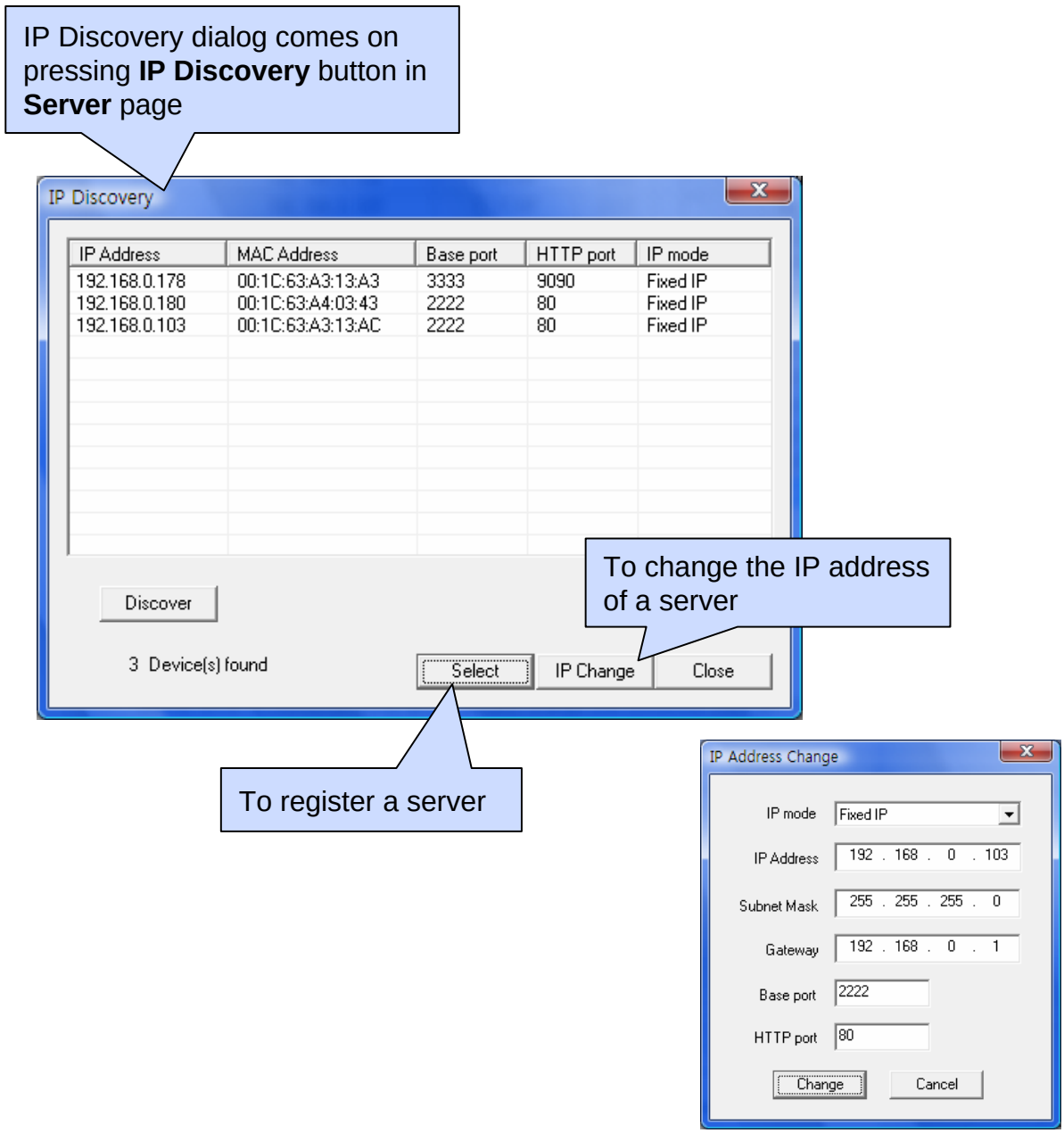
Selection of audio connection

It can be separately configured on server registration whether audio channel will be connected or not. If audio is not used, it’s better to disable audio connection. (Refer above figure)

4-2 Finding servers with IP Discovery

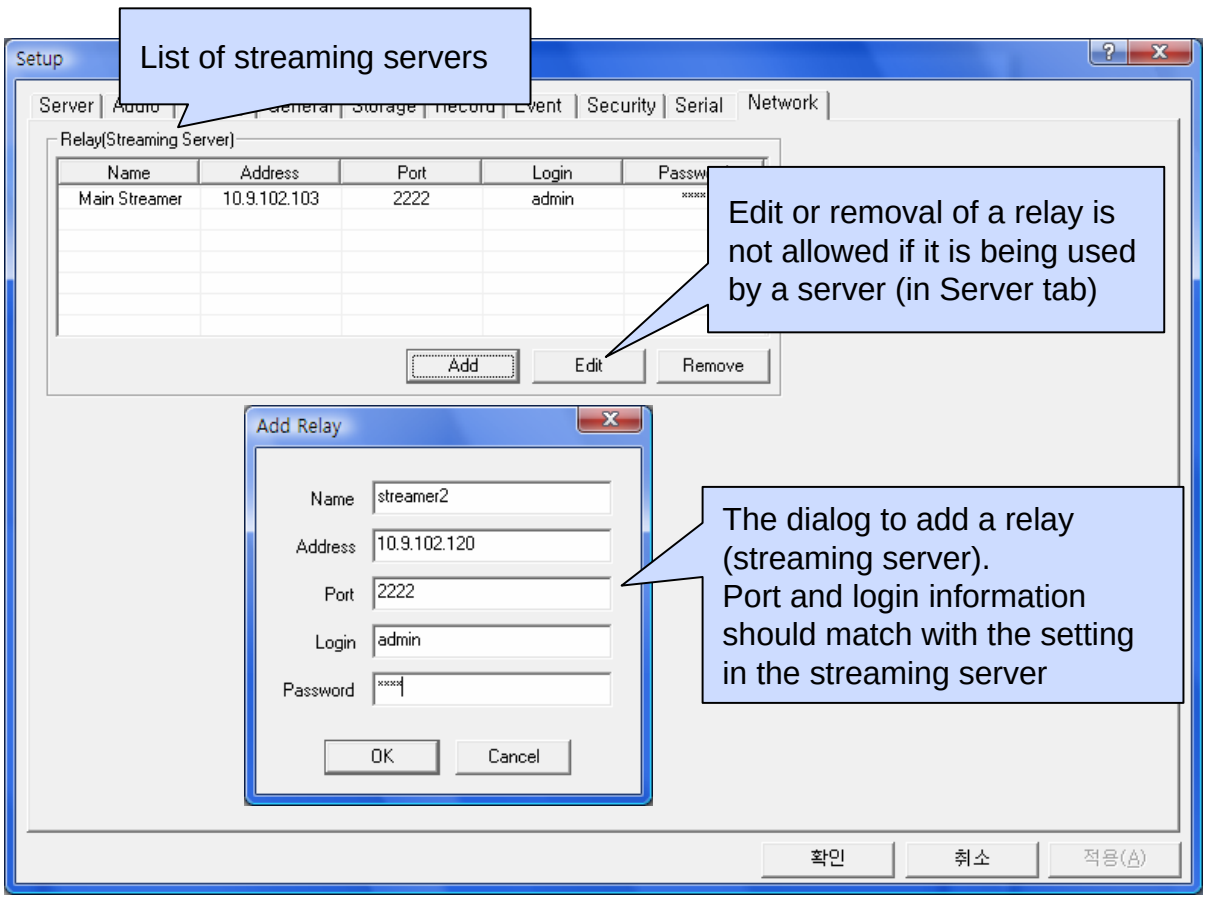
Servers on the LAN can be discovered conveniently using IP Discovery function. After discovering servers, it is possible to select a server for registration or to change the IP address of the server.

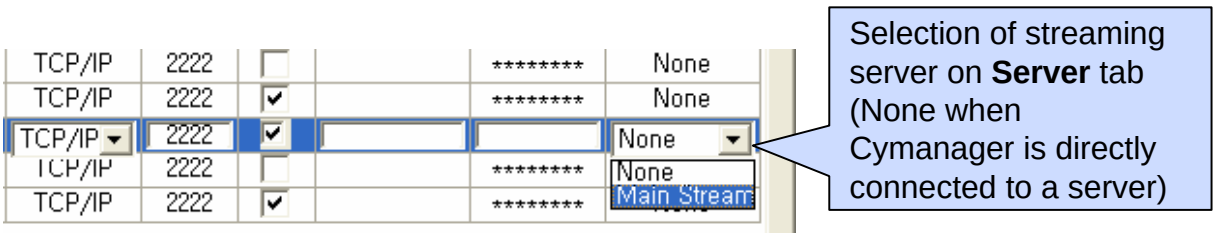
Notice: IP Discovery uses UDP packets for finding server. So, it may not work when the firewall is activated on the PC.



4-3 Connecting to Streaming Server

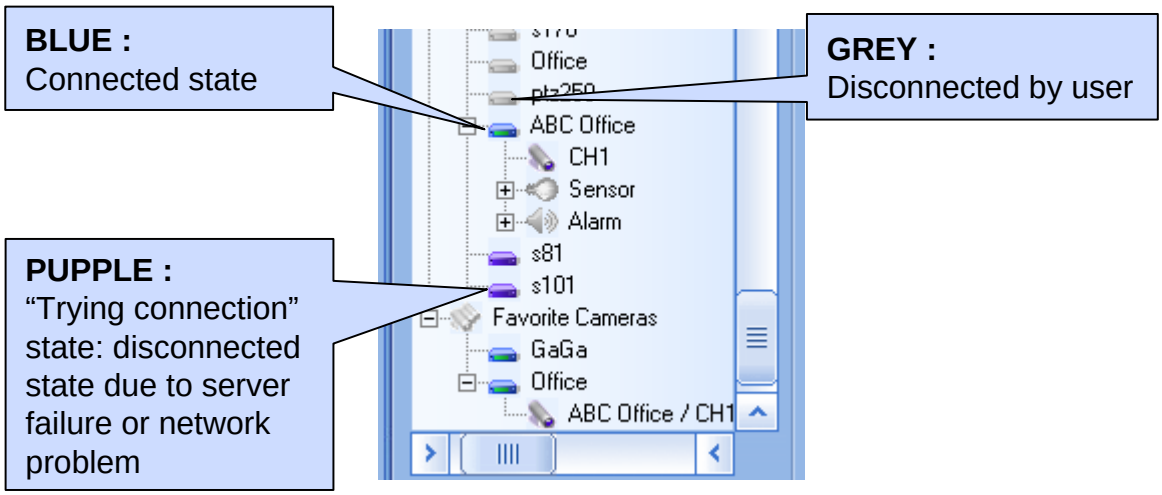
When there's a Streaming Server between the server and Cymanager, it is necessary to configure Streaming Server information in the setup, and specify the Streaming Server on **Server** tab of **Setup** dialog. Streaming Server is also called as **Relay**.





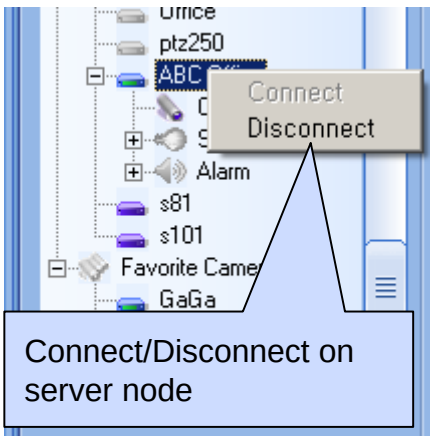
4-4 Managing server connection using Tree View

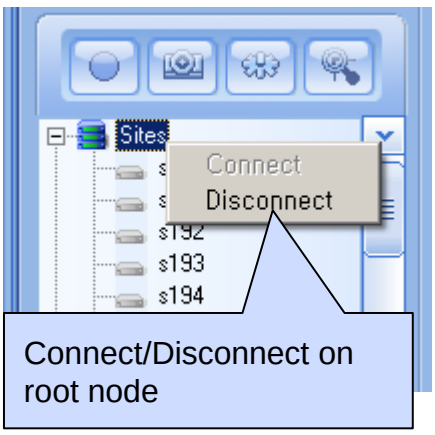
Servers registered at **Server** tab of Setup dialog are shown on Tree View. A server's connection state is distinguishable by colour of the tree node.



Once clicking right button on PC mouse at tree node, it shows **Connect** or **Disconnect** menu. Using this menu, it is possible to connect or disconnect to a server individually.

It is also possible to connect or disconnect all registered servers at once by using the menu on root('Sites') node





5. Live Monitoring

5.1 Screen mode and channel mapping

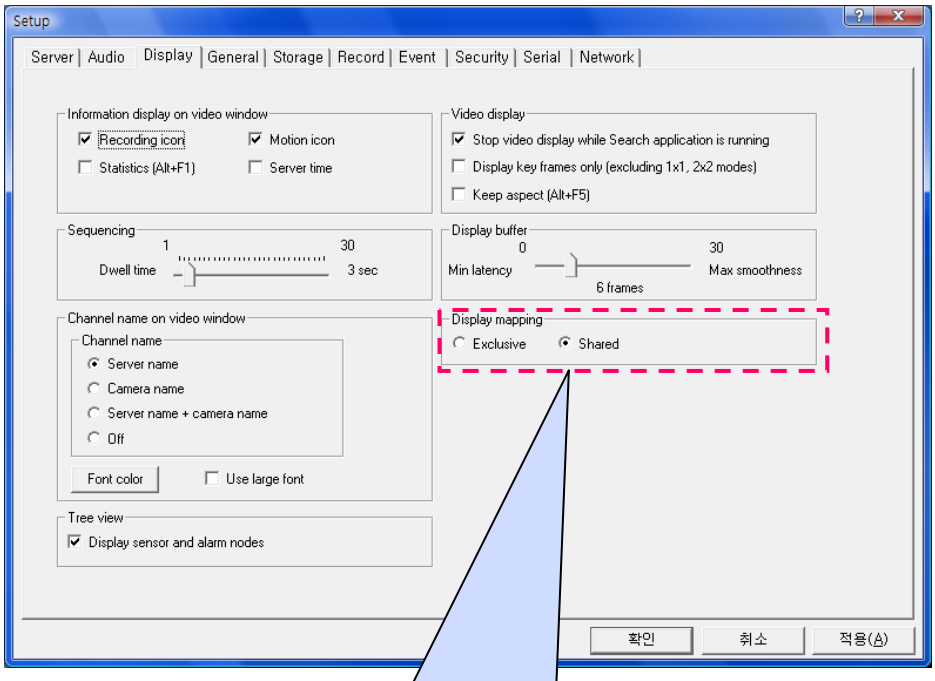
a. Mapping channels and video windows

Mapping between Server channel and Display Window

There are two ways to make a mapping between server channel and display window. In case only 1 channel servers or IP cameras are connected, use of Shared mapping is general.

1. Exclusive mapping
   - Channels of currently selected server are displayed on video windows in orders. Channels of other servers are not displayed.

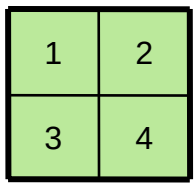
2. Share mapping (default)
   - All channels of all servers are displayed in the order in the Tree View.



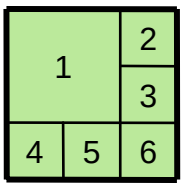
Display mapping: how channels and windows units are mapped

Numbering of Display Windows

The order numbers of display windows are numbered left-to-right, top-to-bottom starting from the upper-left corner window.



2x2 mode

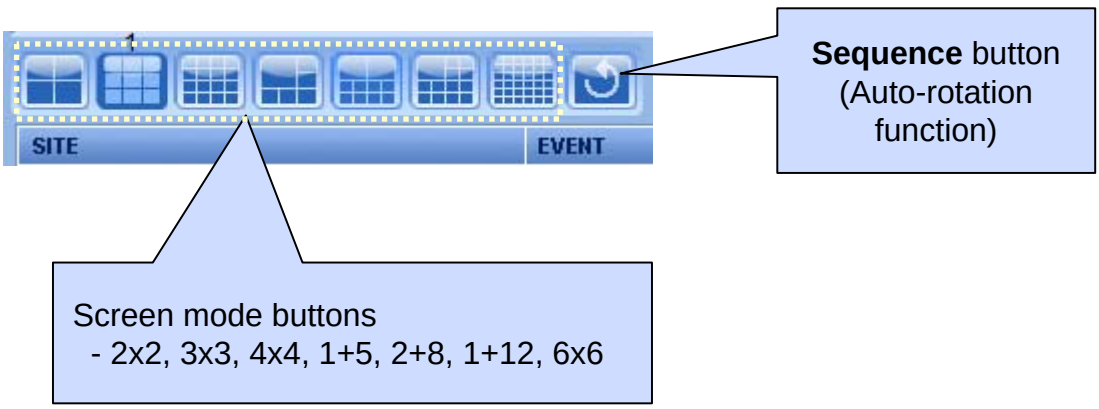


1+5 mode

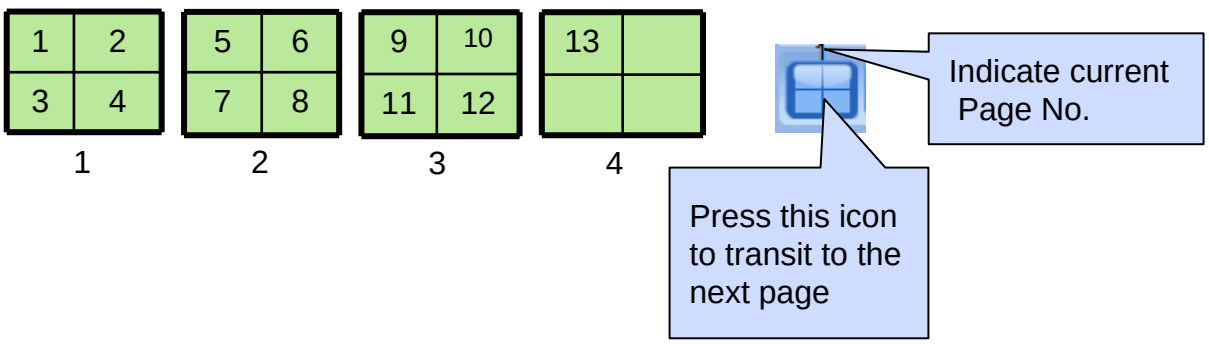
5-1 Screen mode and channel mapping

b. Using various screen modes

Configuring screen mode
Screen mode can be selected by pressing one of buttons for screen mode configuration. Using Sequence button, it is possible to display channels sequentially in a specified interval.



Page transition
If the number of channels are larger than the number of video windows in current screen mode, they are mapped to more than one pages of display windows.
For instance, if the number of total channels is 13 and current display mode is 2x2, there will be 4 pages.



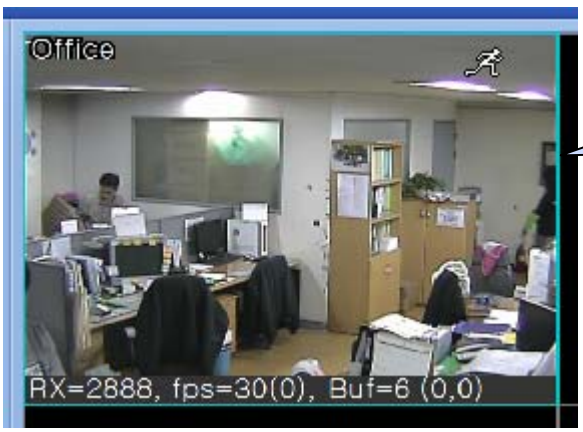
5-1 Screen mode and channel mapping

c. Active channel

Active channel
Currently selected channel is called as ‘Active channel’. Active channel is the channel affected by the following operation:
- PTZ control
- Audio Tx/Rx

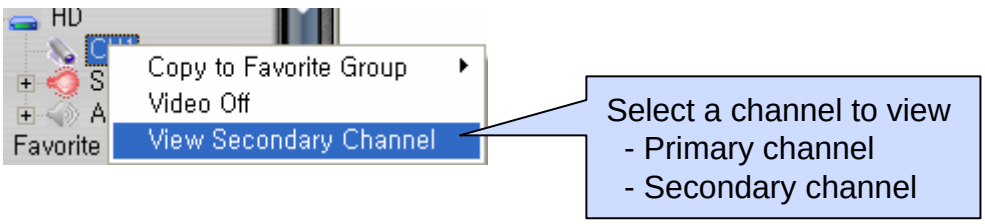
Identification of active channel
Border line of the active channel is sky-blue coloured.

Selecting the active channel (one of the two method
- Click mouse on the display unit ,or
- Select the camera in the Tree View



d. Selecting a channel in dual encoding server

In case of a server or camera supporting dual encoding, it is possible to select a channel to view from camera node of TreeView.



5-1 Screen mode and channel mapping

e. Video loss and video off

If video stream comes normally from the server, decoded video is displayed on the corresponding display unit.

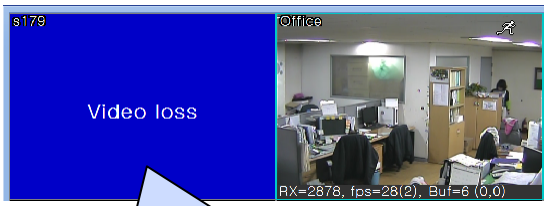
Video loss

Video loss state, absence of video input signal in the server, is visible in two ways:

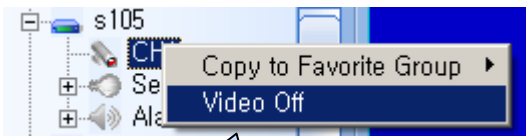
- The display unit displays ‘Video loss’ message
- Camera node in the Tree View shows special sign

Video-off

Video delivery from the server can be stopped by selecting **Video Off** menu on a camera node. Such state is referred as video-off state.
Display unit is not allocated for a channel of video-off state.



‘Video loss’ message on display unit for absence of normal video input to the server



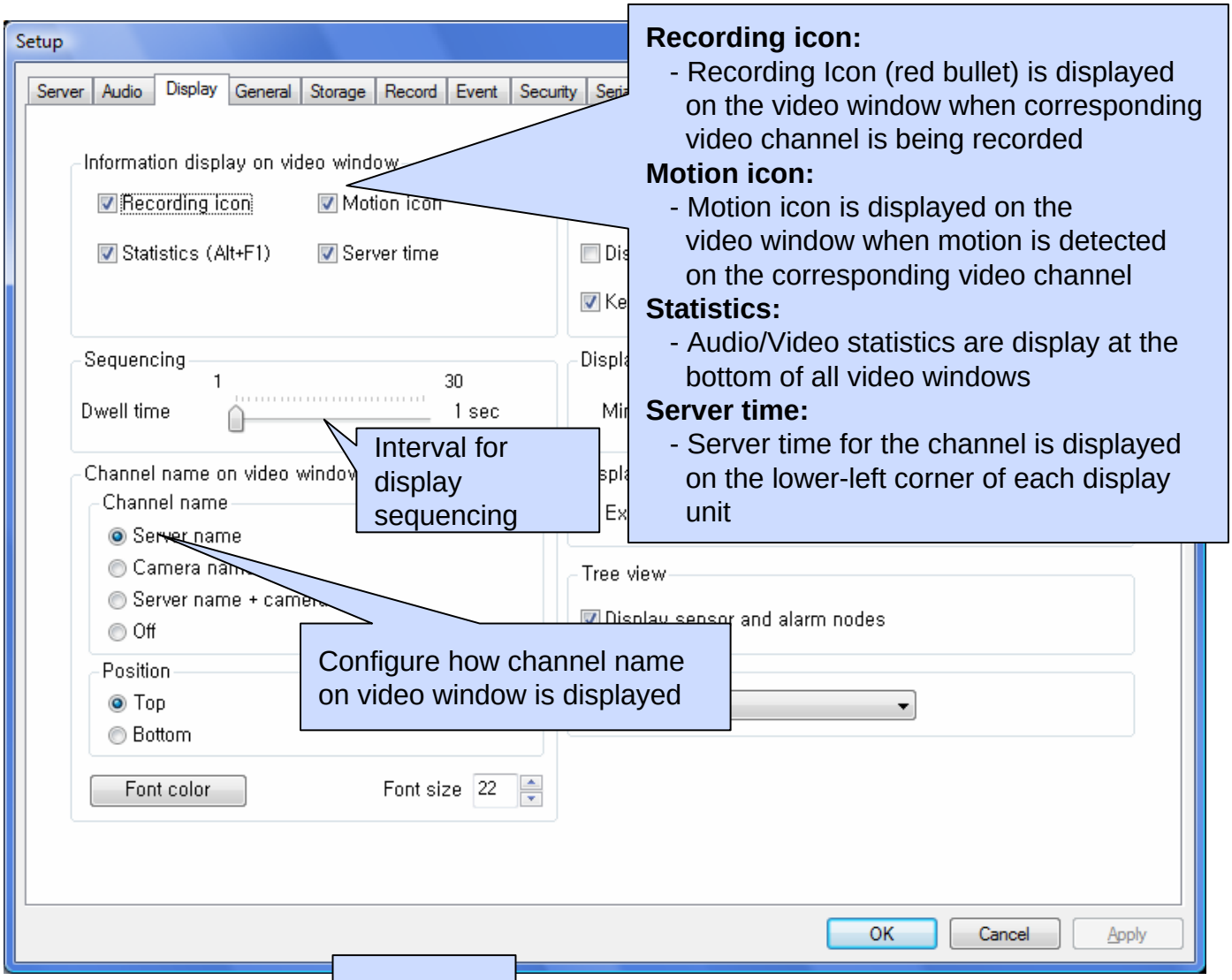
Video On/Off menu to control video stream delivery from the server

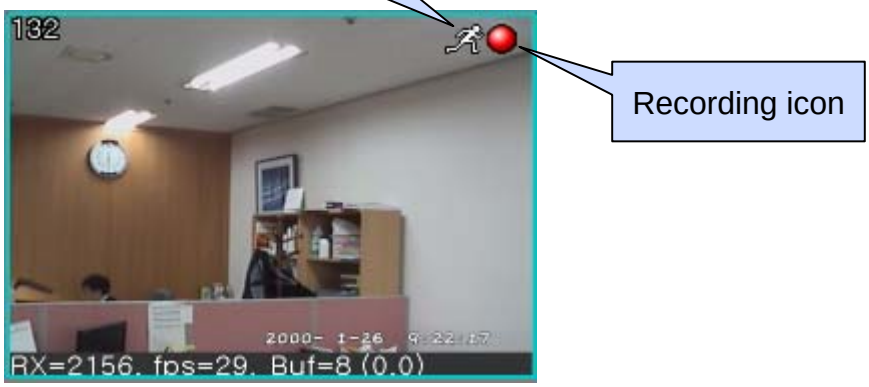
Red sign in camera node represents video loss state

X sign in camera node represents video-off state

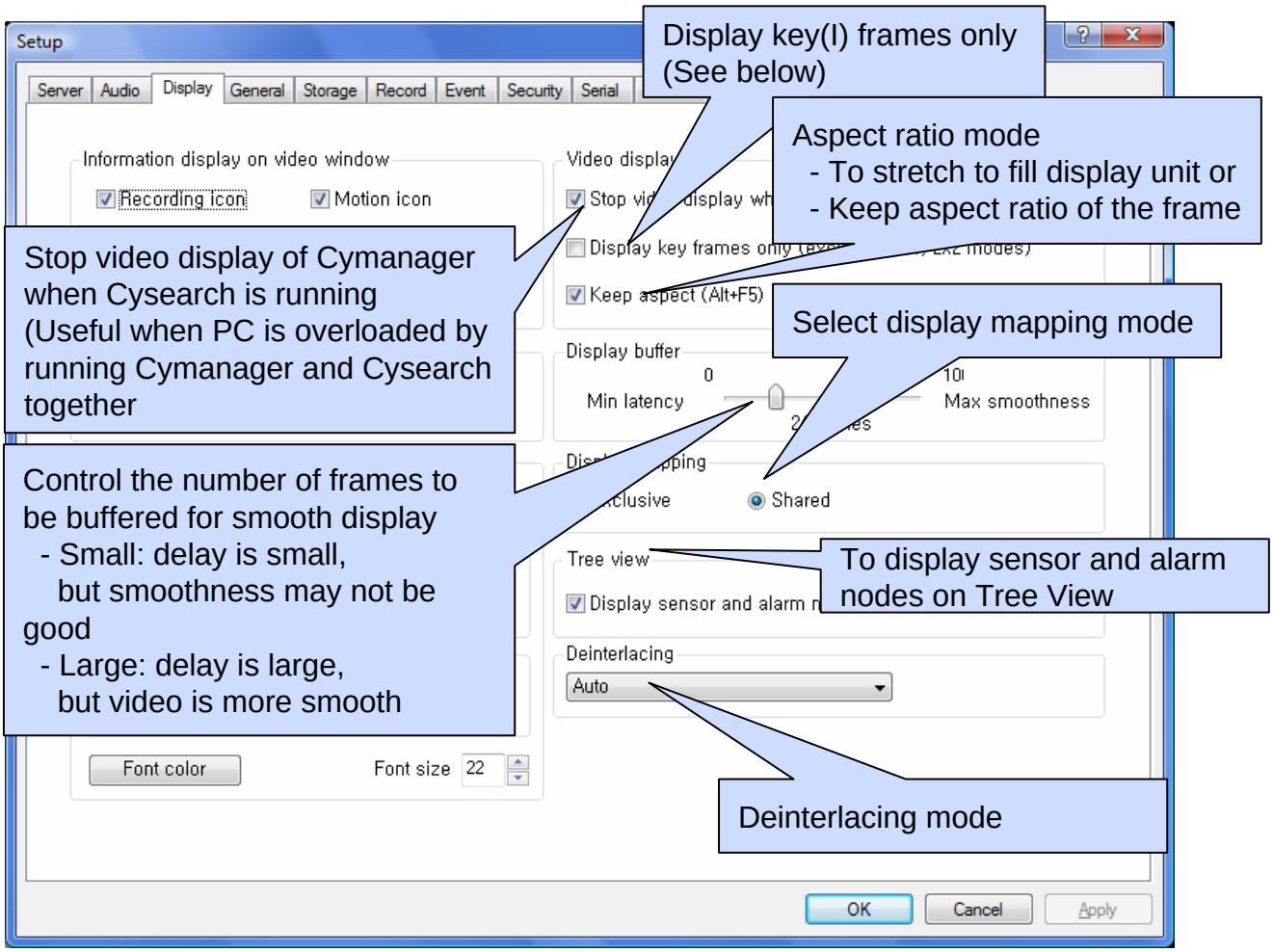
5-1 Screen mode and channel mapping

f. Display setting





5-1 Screen mode and channel mapping



Key frame only display mode
This mode is provided to reduce CPU load when large number of servers are connected and screen configuration mode displays more than 4 channels at the same time.

Full frames are displayed in the following cases even when this mode is enabled:

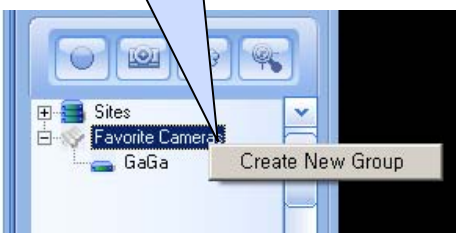
(1) 1x1 mode, 2x2 mode: because only 4 channels are displayed
(2) Currently selected(highlighted) channel in any screen mode: to provide interactivity in PTZ control

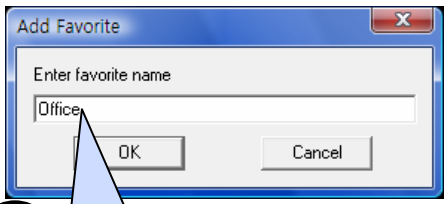
5-1 Screen mode and channel mapping

g. Managing favourite group

Favourite Camera Group
Cameras from different servers can be selected to form a ‘Favourite Camera Group’, which is convenient for monitoring groups of cameras of special interest.

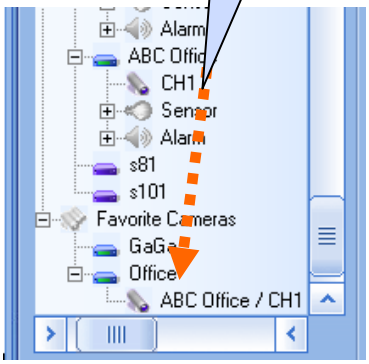
1
Click right button of mouse on Favourite Cameras Mode.



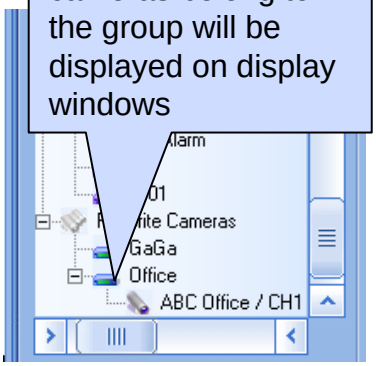


2
Enter name of the new camera group

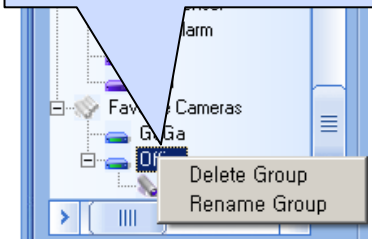
3
Drag & Drop the camera to the group



4
Once clicking the Favourite Group, all cameras belong to the group will be displayed on display windows



5
Click right on the mouse to change name or delete the group

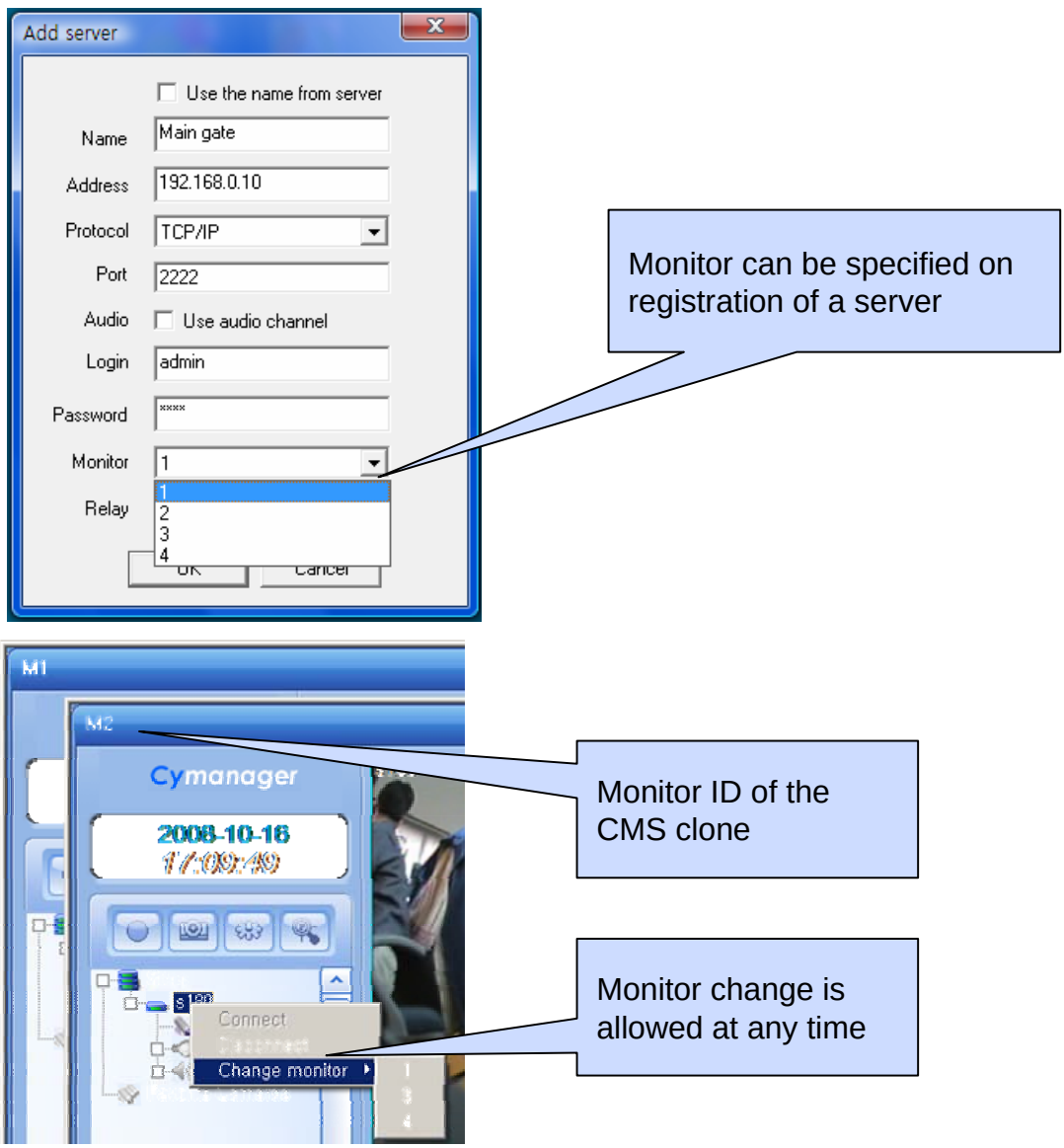


5-1 Screen mode and channel mapping

h. Multi-monitor display

Multi-monitor usage
It is possible to display channels on multiple monitors by invoking clone of Cymanager GUIs. Max 4 monitors can be used. Closing any of Cymanager clones will terminate the Cymanager itself.

Notice: Among different modes of Windows' dual monitor modes, "Separate desktop" mode is recommended for multi-monitor usage of Cymanager. In other modes like "Horizontal span" mode, full screen mode display comes spanned over two monitors

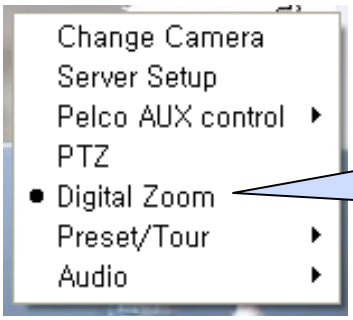


5-1 Screen mode and channel mapping

I. Digital Zoom

Digital zoom of a selected channel is controlled with a mouse. The region to zoom is selected by mouse drag and drop. Only the width of selected region is used and the height is calculated according to the aspect ratio of the input video.
Clicking the left mouse button in the zoomed state restores it to the original state.

Cysearch application supports the digital zoom in the same way.



1. Enable Digital Zoom of a channel. This settings is valid while the channel is connected. Digital Zoom is disables if PTZ is selected.

2. Select a region using the mouse.

3. Selected region is zoomed

4. Click any region to return to original state

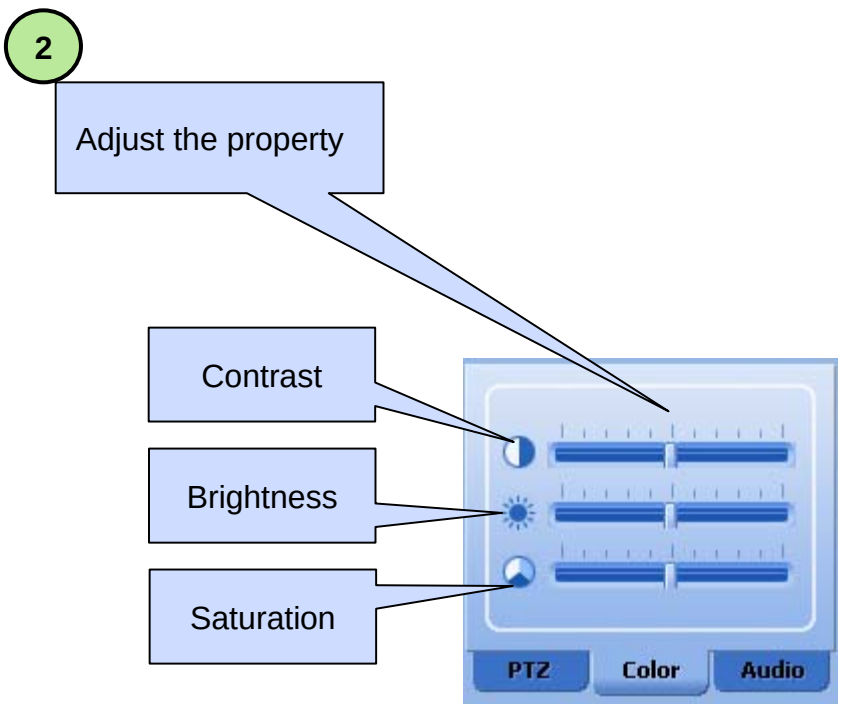
5-2 Adjusting video input

Adjustable properties of video input
- Brightness, contrast, saturation

1

Select the channel to be adjusted
(Make it active channel)
- Select the display window
  or
- Select the camera node in the Tree View

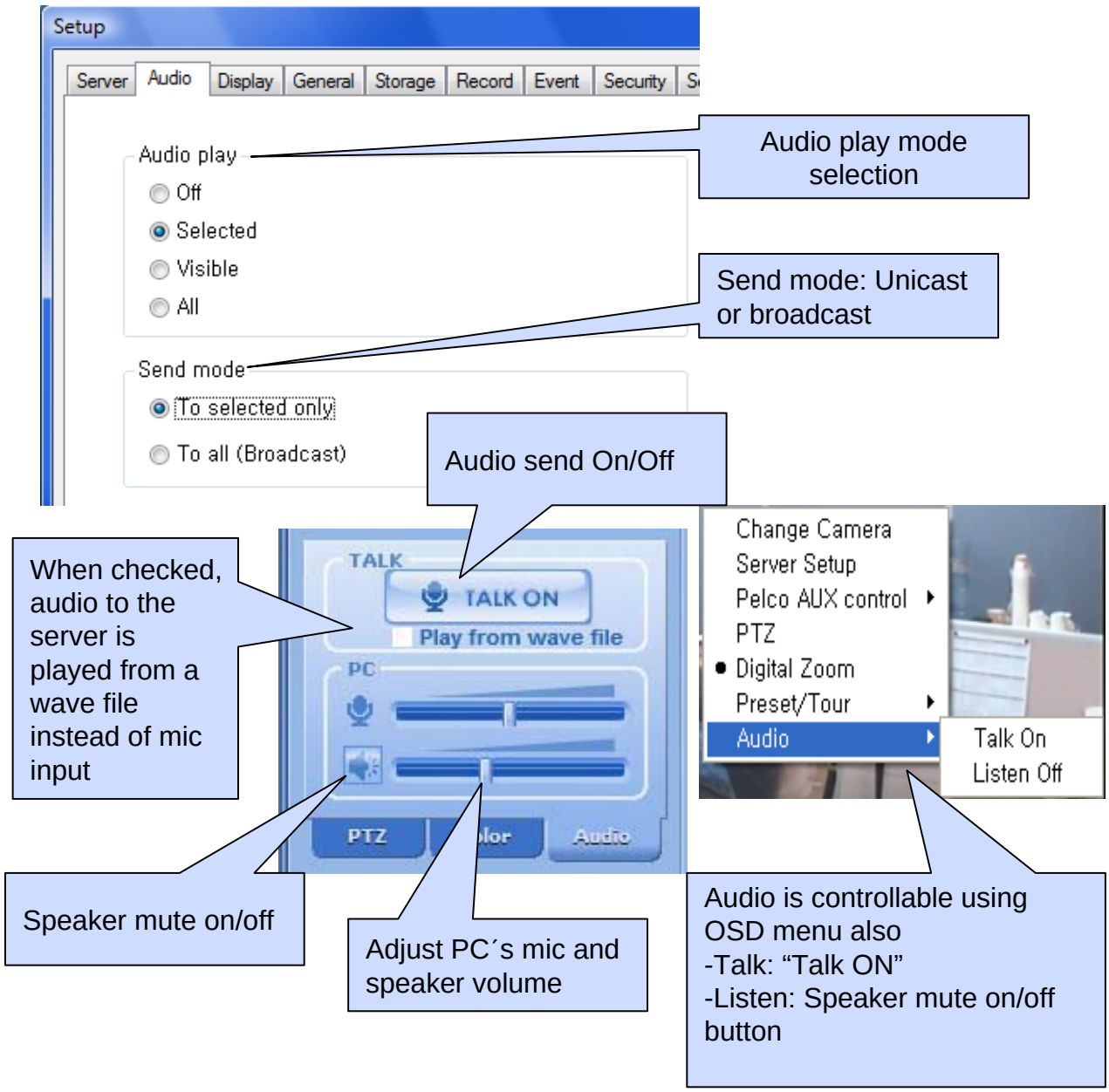
2



5-3 Audio setup and control

Audio communication modes

Cymanager -> Server : 1:1 or 1:N (broadcast) mode selectable
Server -> Cymanager : (In case of selecting Receive) Cymanager receives audio data from all servers which enabled audio TX. Only audio from active channel is output to PC speaker.



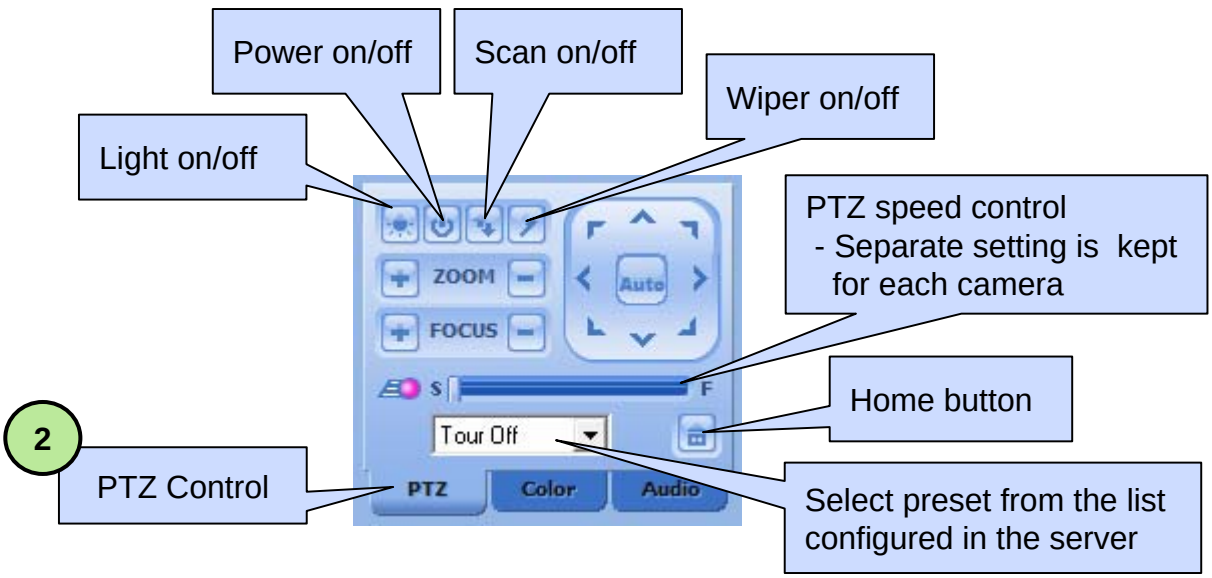
5-4 PTZ control & preset

PTZ Control
Cymanager supports PTZ control for PTZ receivers by major vendors such as Pelco, Samsung. We welcome the requirements from customer to add additional PTZ protocols.

Notice: Some features of camera may not be supported depending on camera types: light , power, wiper, home and diagonal direction button

1

Select the Active channel **(**Refer **5-1-3)**
- Select display window
  or
- Select the camera node in the Tree View



On-Screen PTZ Control
It is also possible to control PTZ by clicking a display unit for a camera using the mouse.
- Clicking the mouse: Pan or Tilt control to corresponding direction
- Mouse scroll button: Zoom control

5-5 Event and alarm

a. Event monitoring

Types of events

Server event (Events from video server or IP camera)

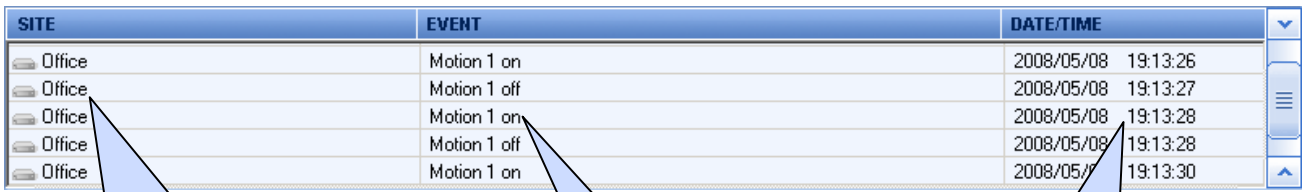
1) No camera (video loss) 2) Sensor 3) Motion

Local (Cymanager) event

- Local events are generated by Cymanager

1) Server added/deleted 2) Server connected/disconnected
3) Cymanager started/terminated 4) Connection failed
5) Audio talk on/off 6) Setup opened/closed
7) Search started/terminated

Events are displayed on Event Window as soon as they are generated.



Site: server which triggered the event

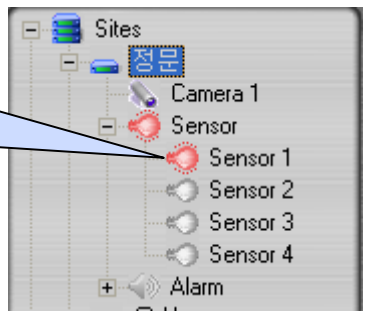
Event type

Event time

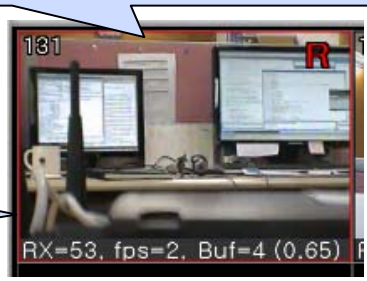
Event display/notification

- For sensor event, both Tree view and display unit show special marks.
- For any types of events, it is possible to generate sound effect (at **Display** tab)

Sensor node in the Tree view reflects the state of the sensor



The border of a display unit blinks in red colour when the sensor event happens on the corresponding server



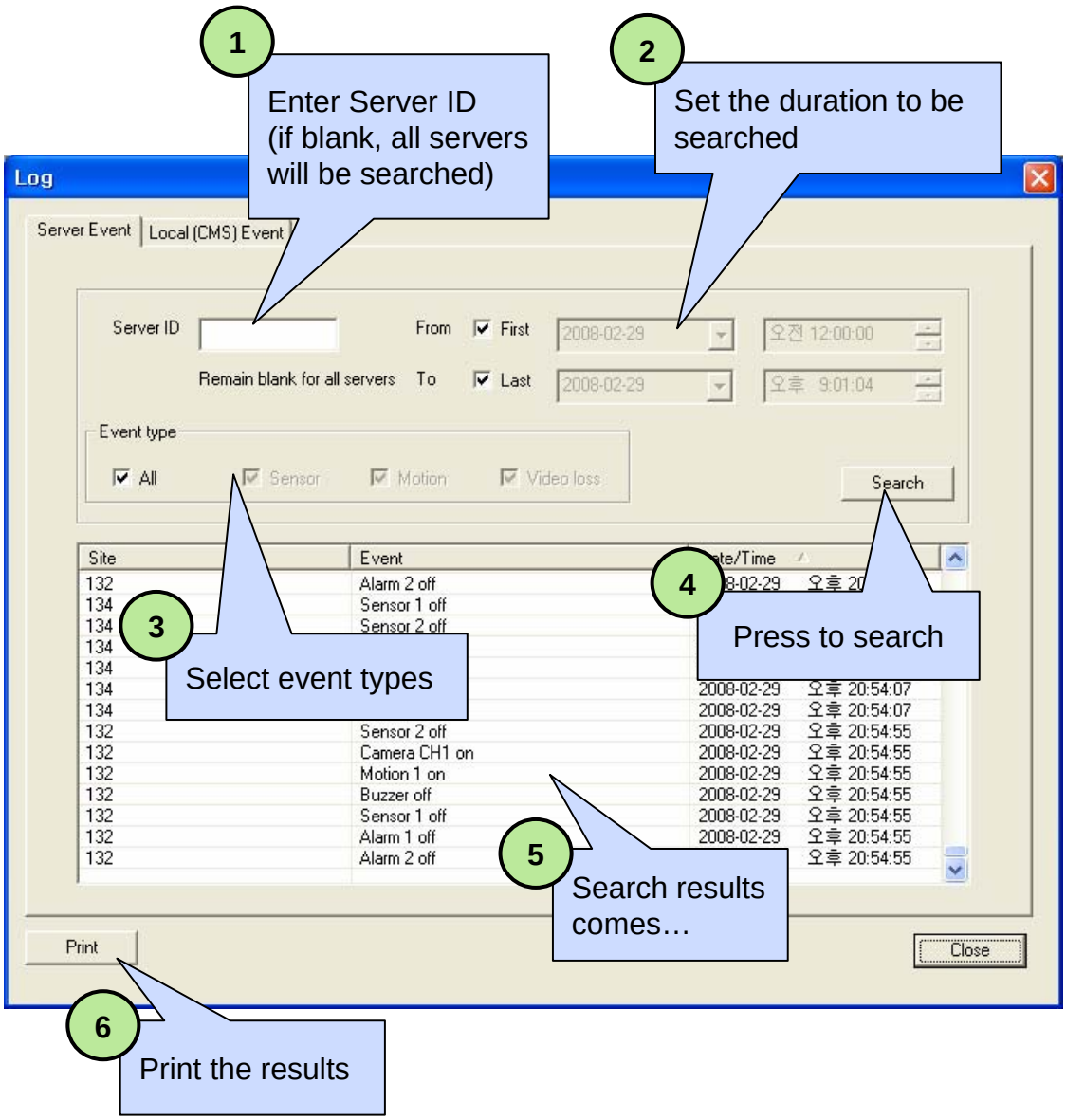
Blinking stops if the display unit is clicked by mouse

5-5 Event and alarm

b. Event Search

Event Search window is invoked by pressing **Event Search** button 

Event Search window consists of two sections: Server event and Local (Cymanager) event. They can be searched in the same way.

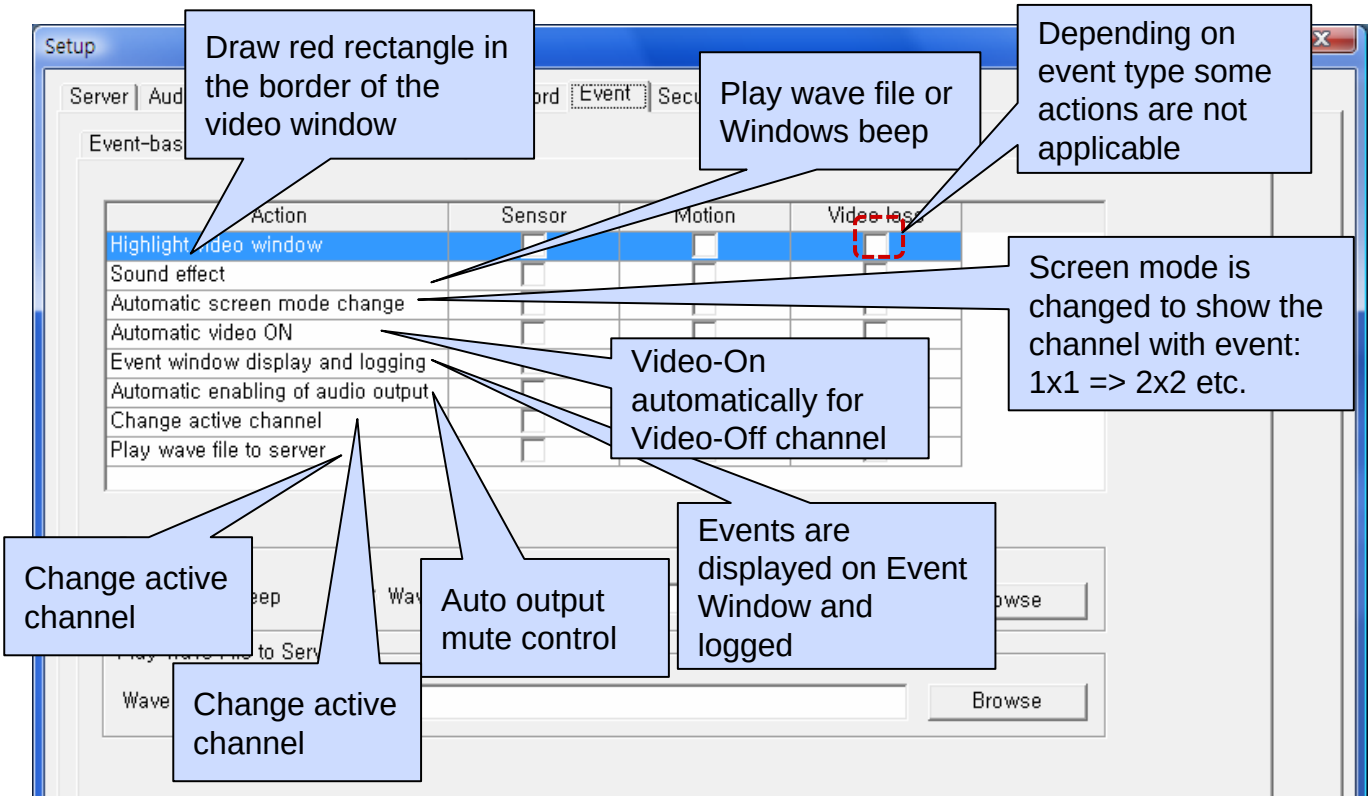


5-5 Event and alarm

c. Mapping actions to events

For events from servers, various actions can be associated. Currently 6 types of actions are defined and further actions can be added if necessary.

- Highlight video window with red rectangle
- Sound effect
- Automatic screen mode change
- Automatic video ON
- Event window display and logging
- Automatic enabling of audio output
- Change active channel



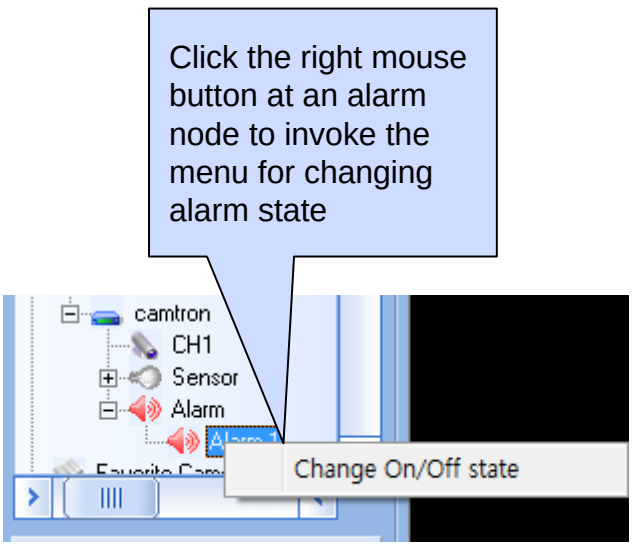
How to stop the action

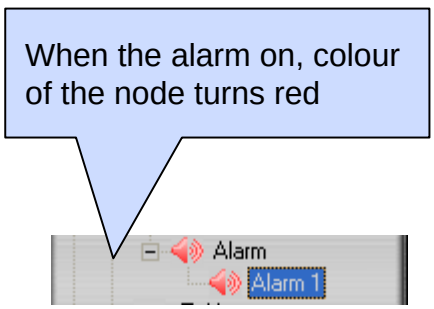
- Highlight video window and sound effect stops if corresponding video window is clicked .(Wave file play stops only after playing the file completely)

5-5 Event and alarm

d. Alarm(relay) control

The server's alarm port can be controlled remotely from Cymanager. An alarm node in the Tree View comes grey when the alarm is off, and comes red when the alarm is on.

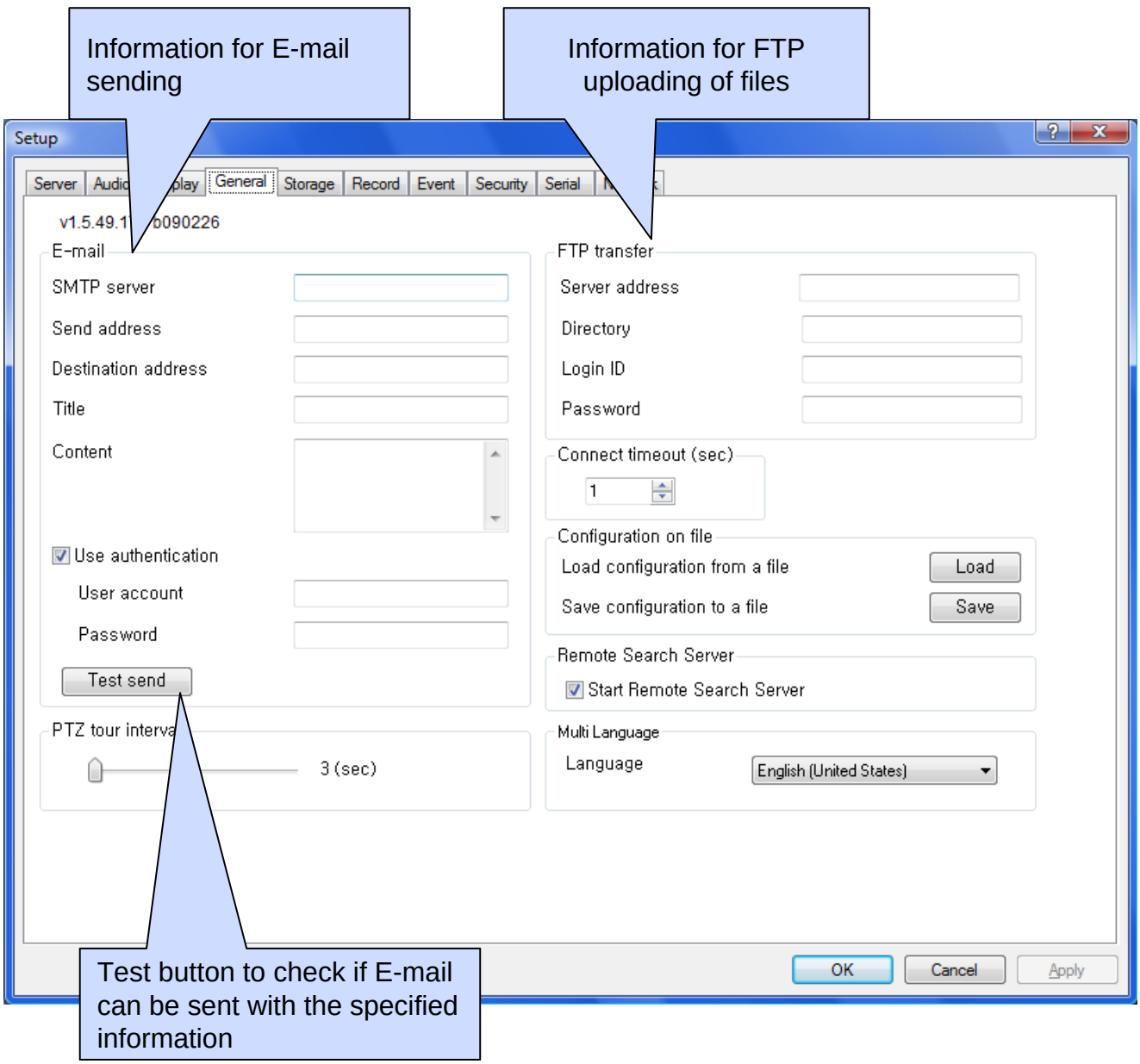




5-5 Event and alarm

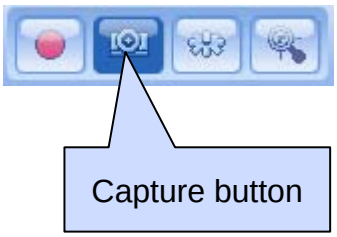
e. E-mail and FTP setup

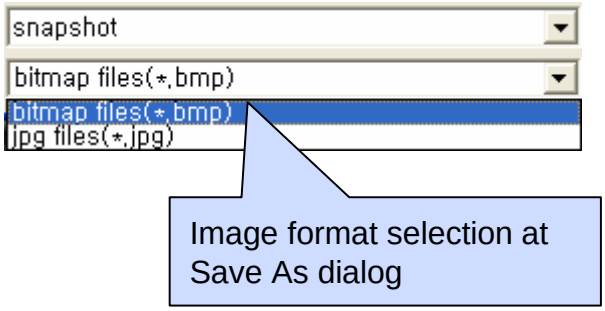
E-mail sending and/or FTP upload can be specified as the actions of an event. In current version, only manual operation at Snapshot dialog is supported. These actions can be specified as the actions of other events in the future.

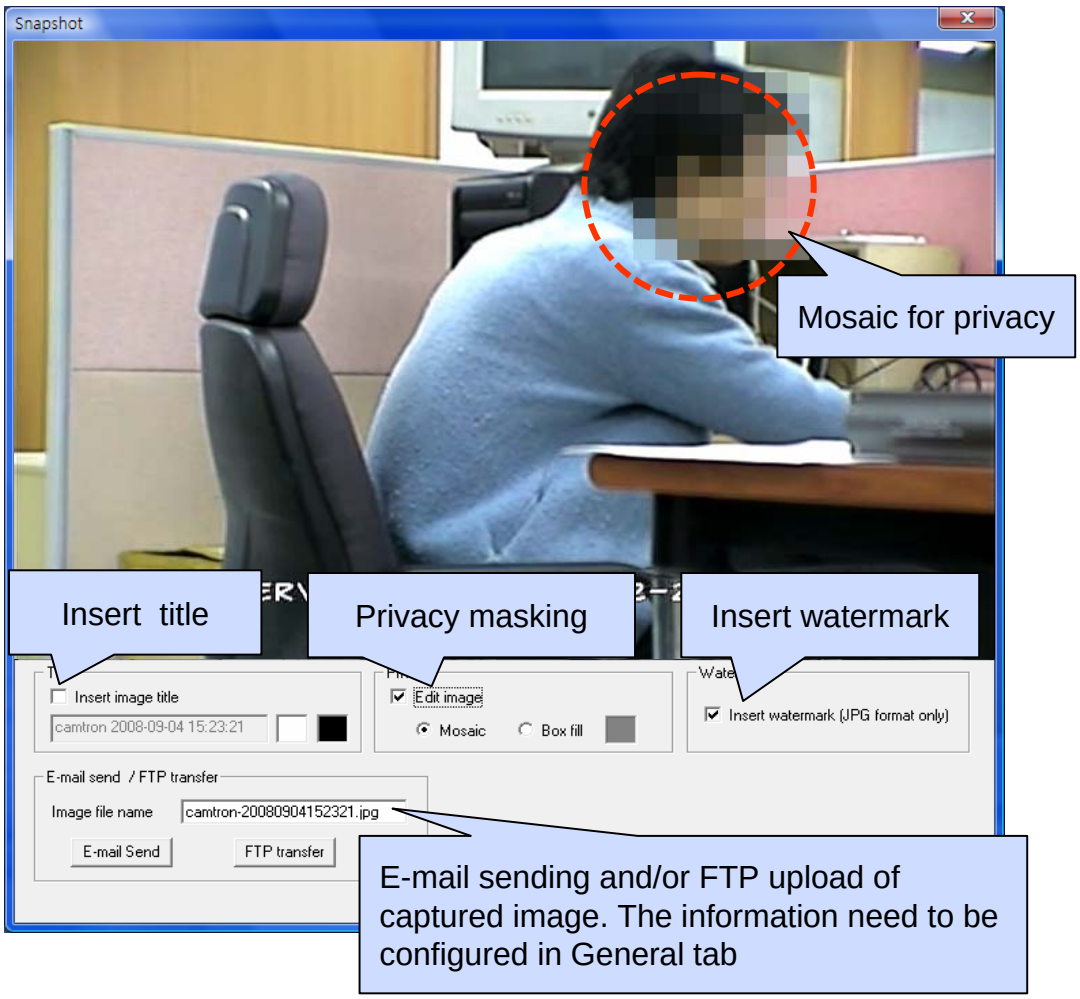


5-6 Still image capture

Press **Capture** button  to capture a still image. Captured image can saved as BMP or JPEG format. Before saving or printing the image, it is possible to edit the image for inserting a title or privacy masking. It is also possible to insert digital signature(watermark), which can be recognized by a special viewer(JPEG view.exe). This feature is supported for JPEG format only.





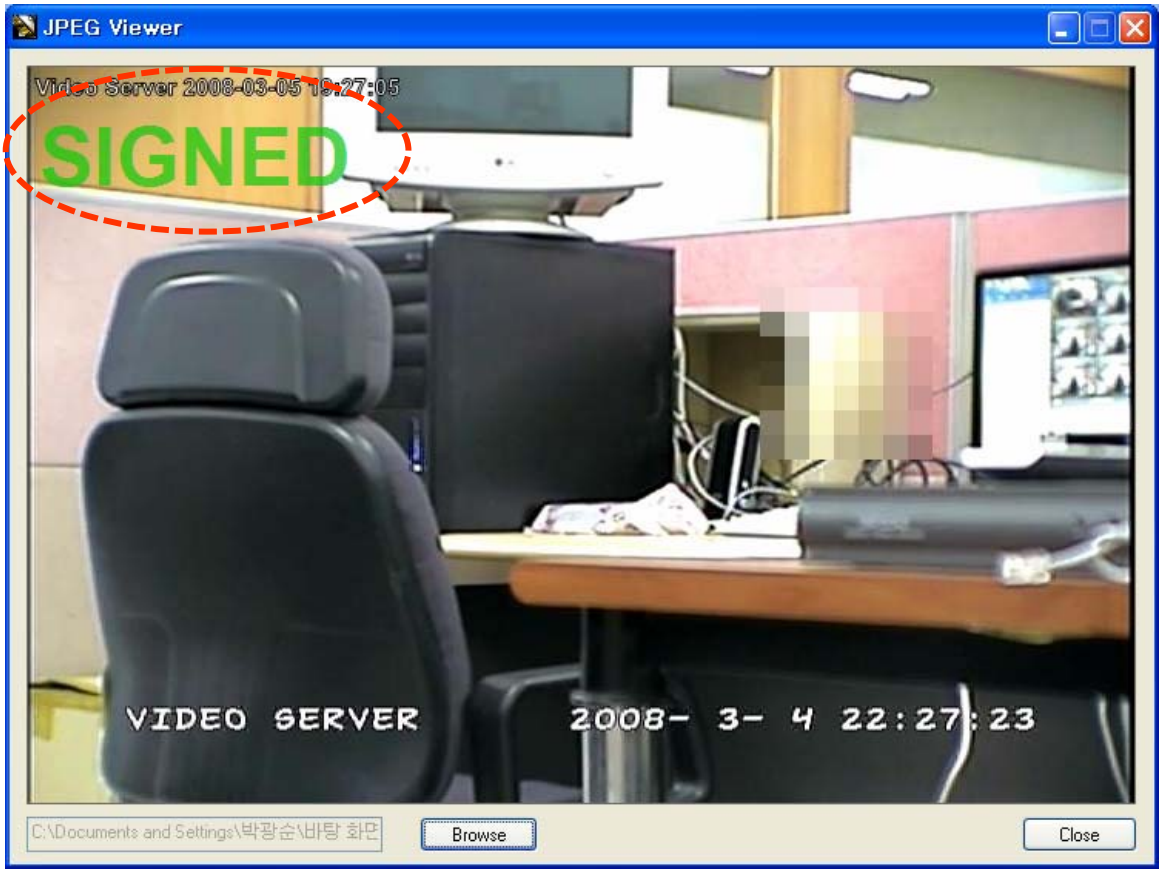


5-7 Watermarking

Inserting watermark
Watermark(or digital signature) can be inserted by checking “Insert watermark” item on Snapshot dialog. It works only in case the image is saved as JPEG format.

Checking the validity of an image
Validity of an image can be checked by a special JPEG viewer(JPEGViewer.exe) in the installed folder. It tells the type of a JPEG image in three ways:

- SIGNED: captured by Cymanager and not modified since then
- NOT SIGNED: not captured by Cymanager
- MODIFIED: captured by Cymanager but modified since then



6. Recording

1) Overview

Features of recording

Video, audio and event data can be recorded into disks with the following features.

-Simultaneous recording of max 36 video channels and max 36 audio channels
-Support of long pre-event and post-event recording time
-Time-lapse recording and event-based recording with various combination of events
-Disk recycling on disk full
-Disk add/drop without affecting existing data recorded

Procedure for recording configuration

In order to make recording work, it is necessary to configure storage and record setting in the following order.

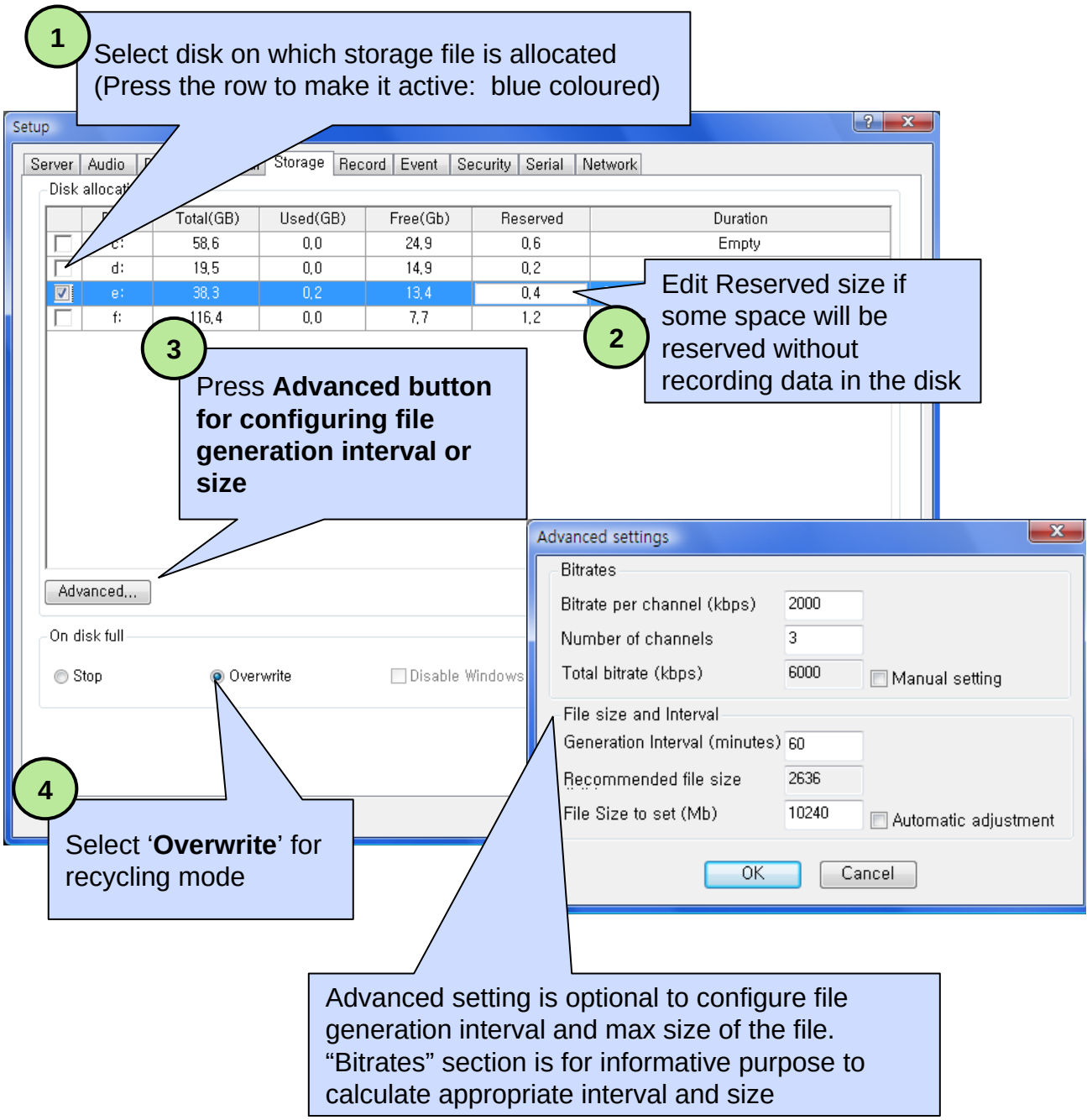
① Configure storage (**Storage** tab)
Cymanager allocates a large file in each disk for recording multiple channels effectively. It is necessary to allocate storage file in the disks to be used.
② Configure recording mode and schedule for each channel (**Record** tab)
For each video channel, recording mode and schedule need to be set.
③Configure the association between events and video channels (**Event** tab)
In case of event-based recording, it is necessary to associate events and video channels
④Start recording with **Record** button 

Notice: Recording on to C: drive should be avoided. If it is inevitable, the option for Cache writing on the disk should be disabled.

6. Recording

2) Storage setup

The first step is to allocate storage files on disks. When there are multiple disks, storage file can be allocated in each disk. In such case, they are used in the order of disk order.



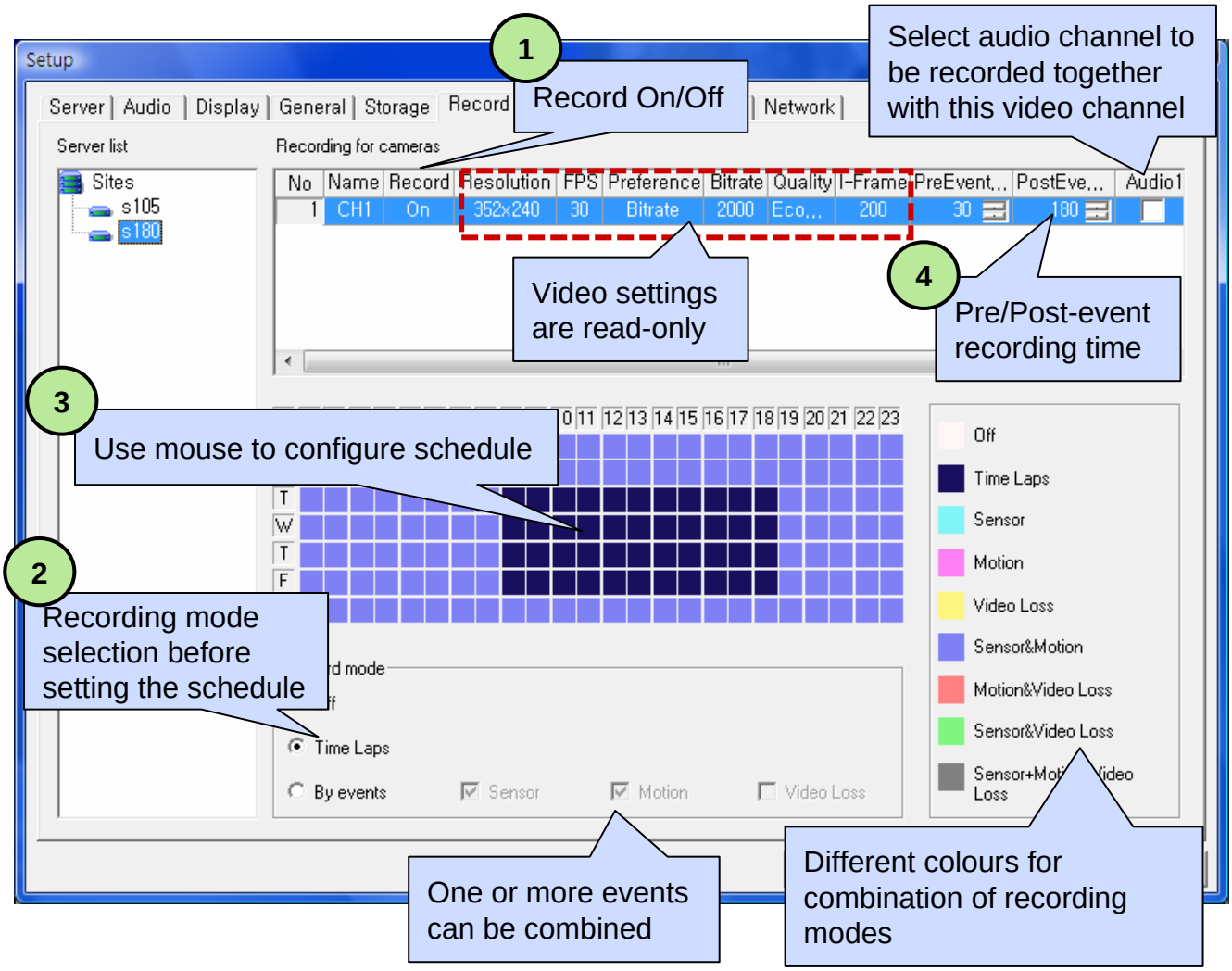
6. Recording

3) Recording mode and schedule setup

Recording mode(time-lapse mode or combination of various event mode) and schedule can be set for each channel.

Time-lapse recording: the camera is recorded continuously according to the schedule
Event-based recording: the camera is recorded when one or more events happens

(1)Set **Record** to On
(2)Select record mode to apply to the schedule table
(3)Set the schedule by clicking the cells or drag & drop
(4)Specify Pre/Post event time in case of event-based recording

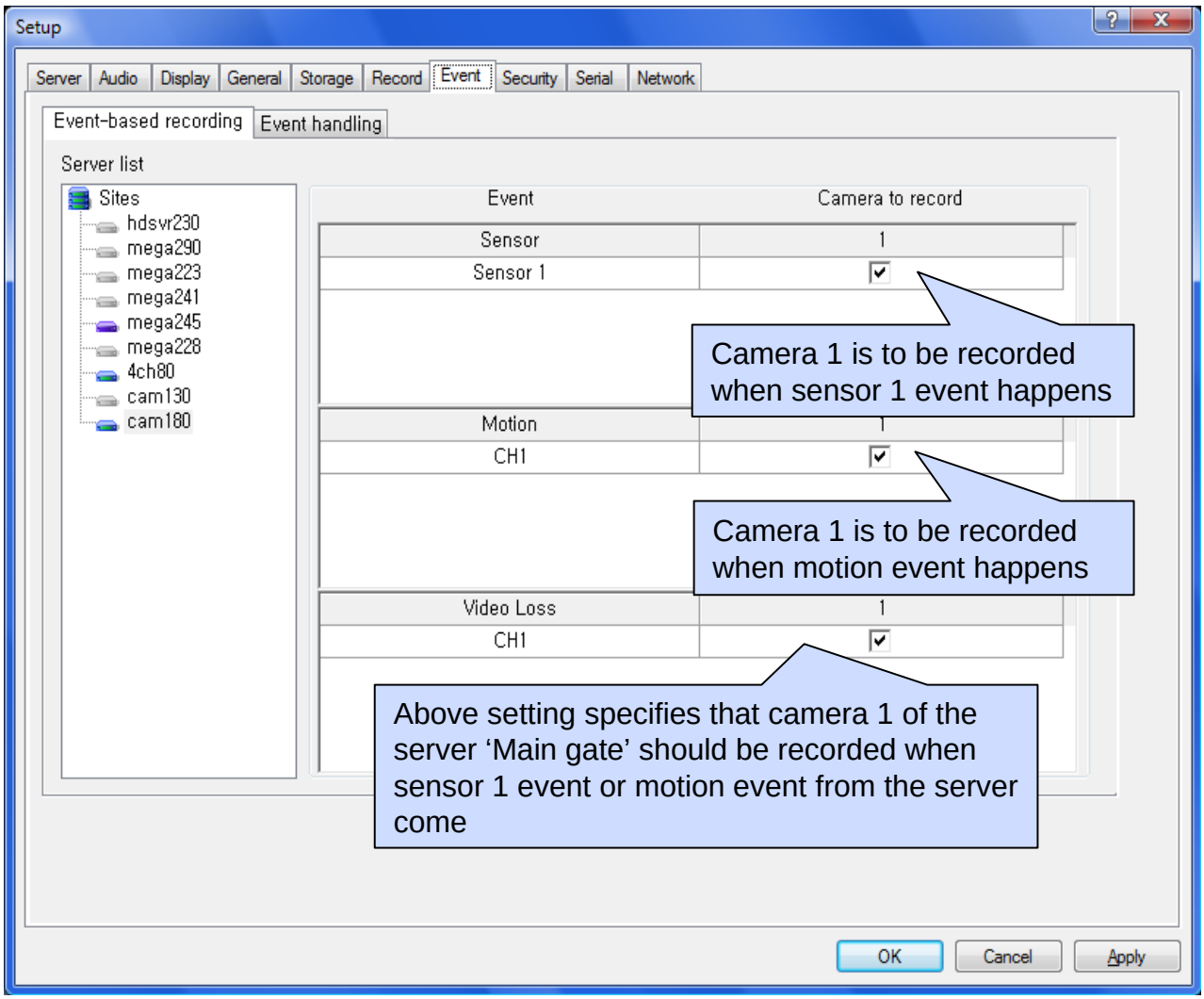


6. Recording

4) Association of events and cameras for recording

In order to do event-based recording, it is necessary to make the association between an event and the cameras to be recorded. When the server has multiple number of video channels, more than one cameras can be associated to an event.

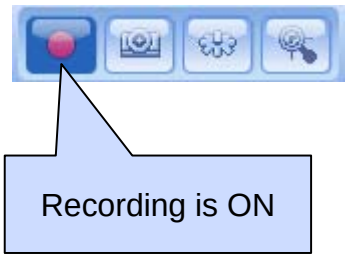
Event-based recording is not enabled for event types which are not selected in “Events to be processed” setting.



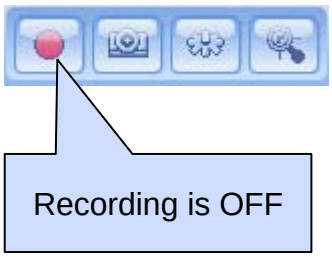
6. Recording

5) Recording control(On/Off)

Record button is used as the master control of recording. **Record** button should be ON for any type of recording(time-lapse or event-based) to work. If **Record** button is OFF, all recording stop.

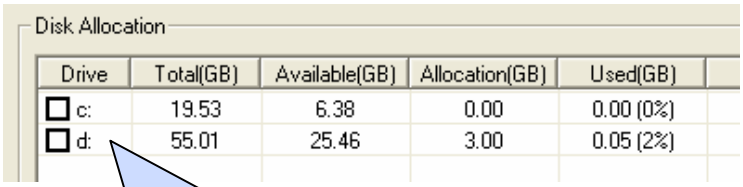


Recording is ON



Recording is OFF

Notice: At least one disk(storage) file on which storage file is allocated should be selected for the recording to proceed.



C: No storage file allocation on C drive
D: Storage file is allocated, but not selected(checked)

This error comes when **Record** button is pressed without selecting disk to record

7. Search and Playback

1) Overview

Cysearch program is for searching and playback of video, audio event data.

Cysearch can be executed in two ways:
- Invoked independently from Cymanager
- By pressing **Search** button in the Cymanager program

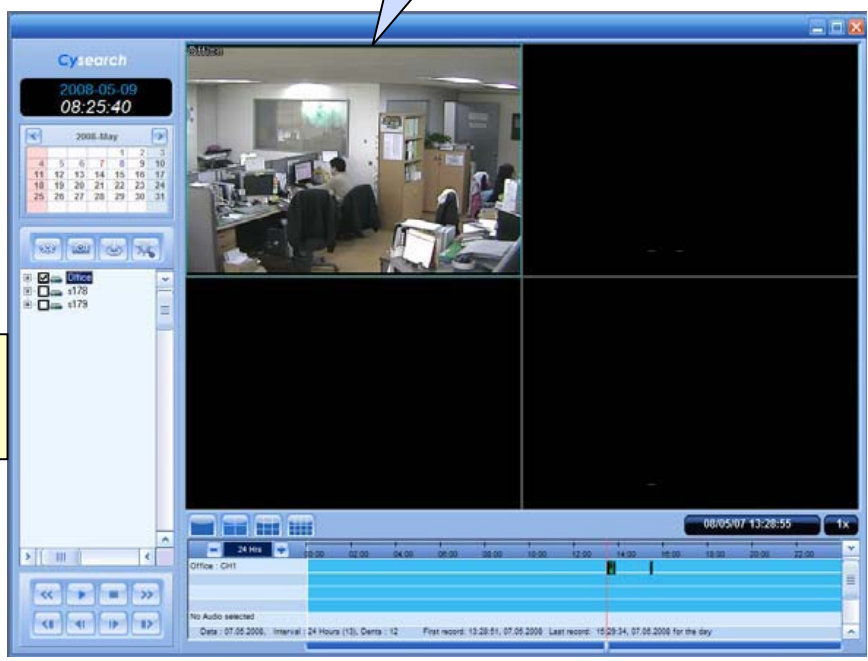
It offers simultaneous playback of up to 16 channels. One audio channel can be played together with video channels.

1 Press **Search** button

3 Cysearch is invoked

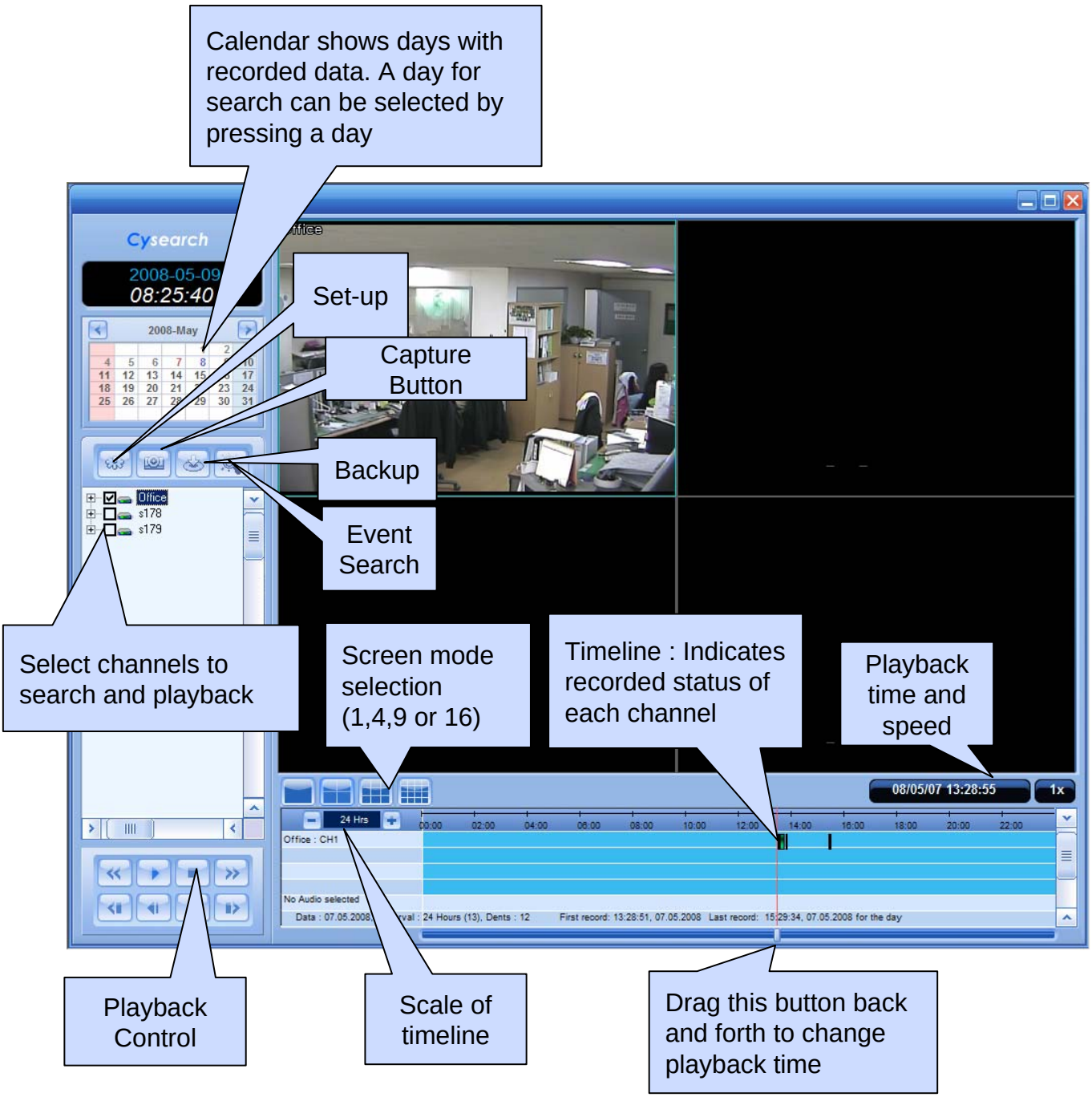
2 Takes little time before Cysearch invoked

Starting Search… Please Wait.



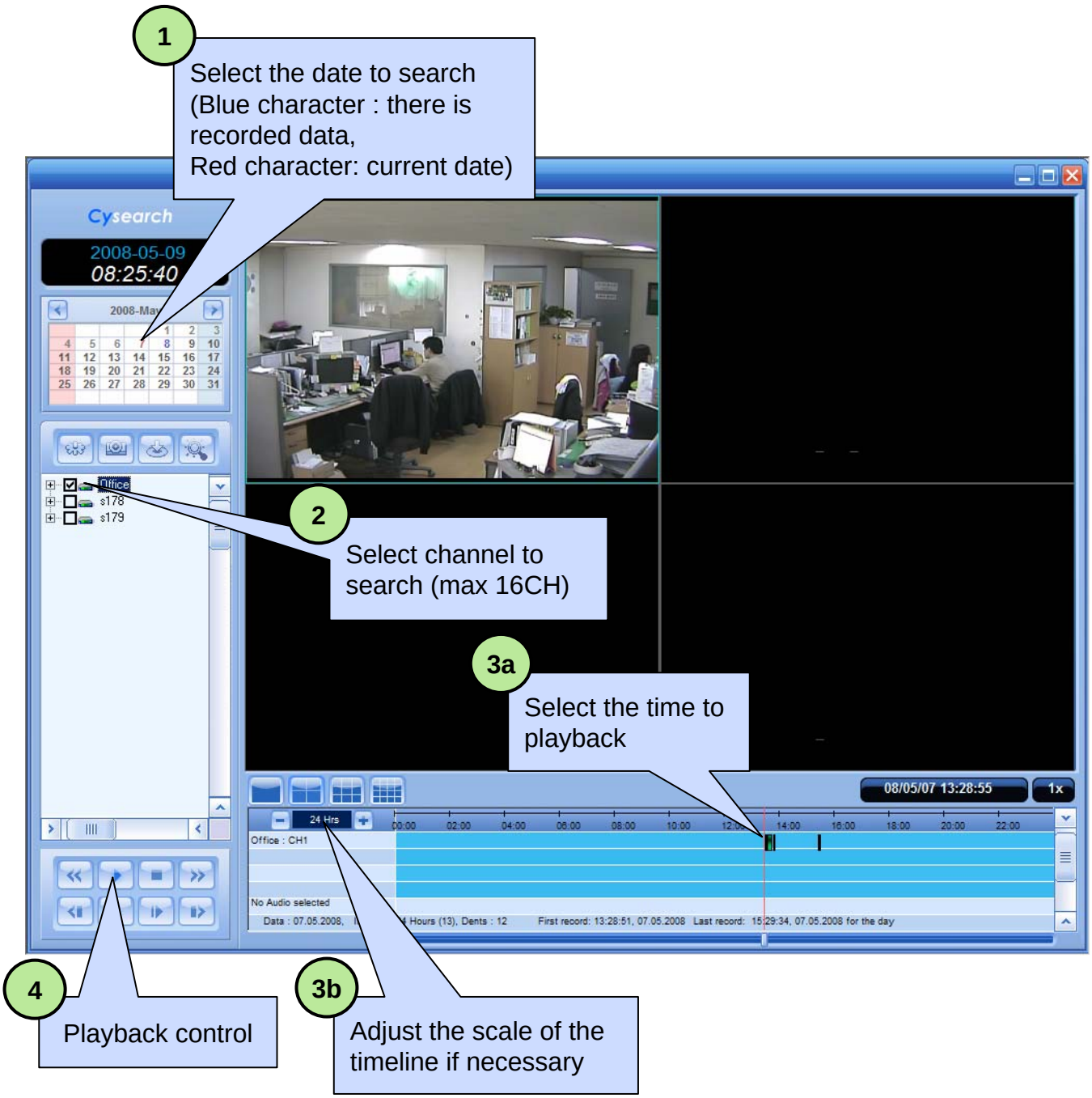
7. Search and Playback

2) Cysearch interface



7. Search and Playback

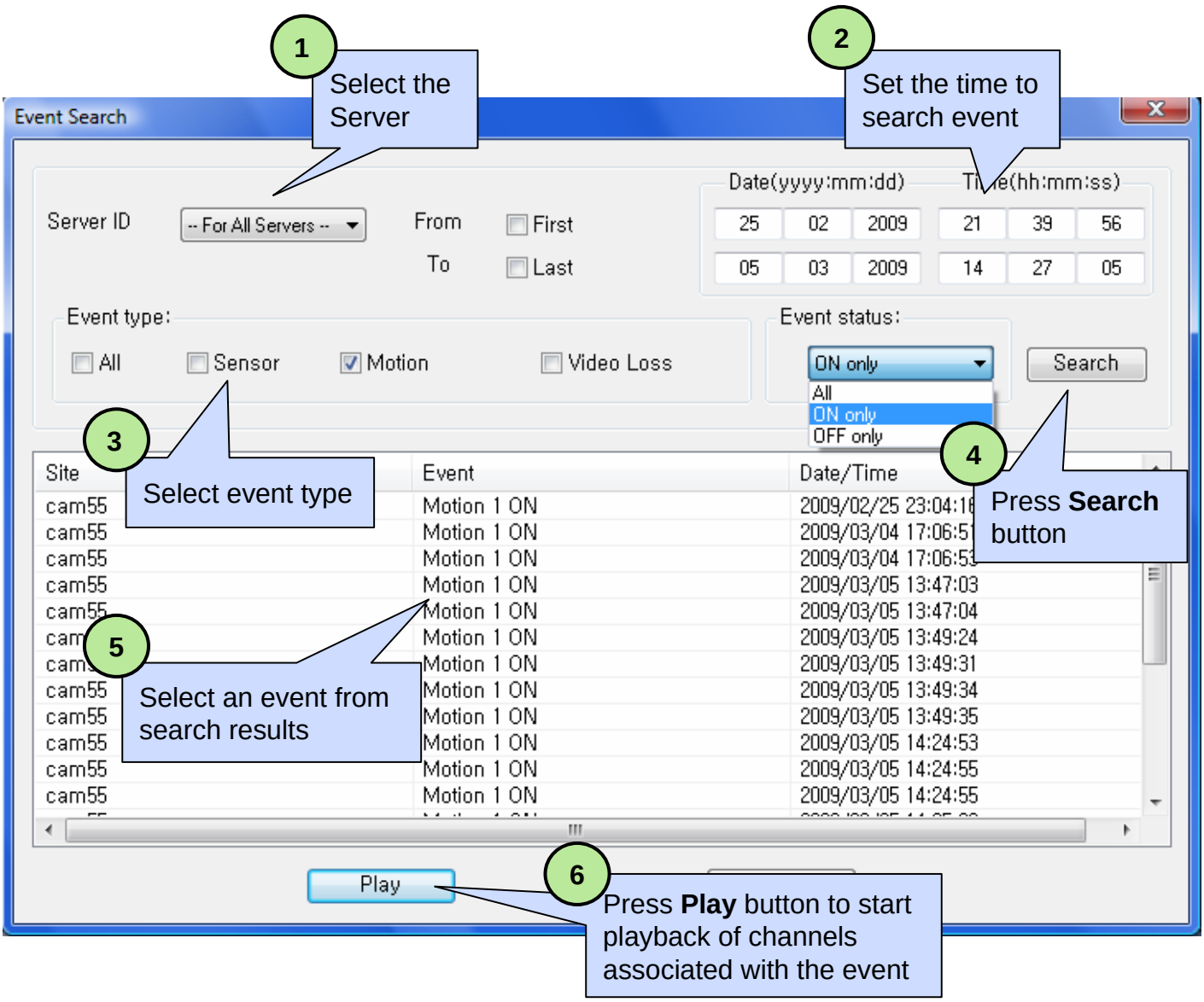
3) Search by date and time



7. Search and Playback

4) Search by event

Once clicking **Event Search** button  , the **Event Search** window is opened. On the **Event Search** window, various conditions can be combine to find specific events. Then, video channels associated with a specific event can be searched and played (Association between events and video channels is determined at recording configuration: **Event** tab of Cymanager).

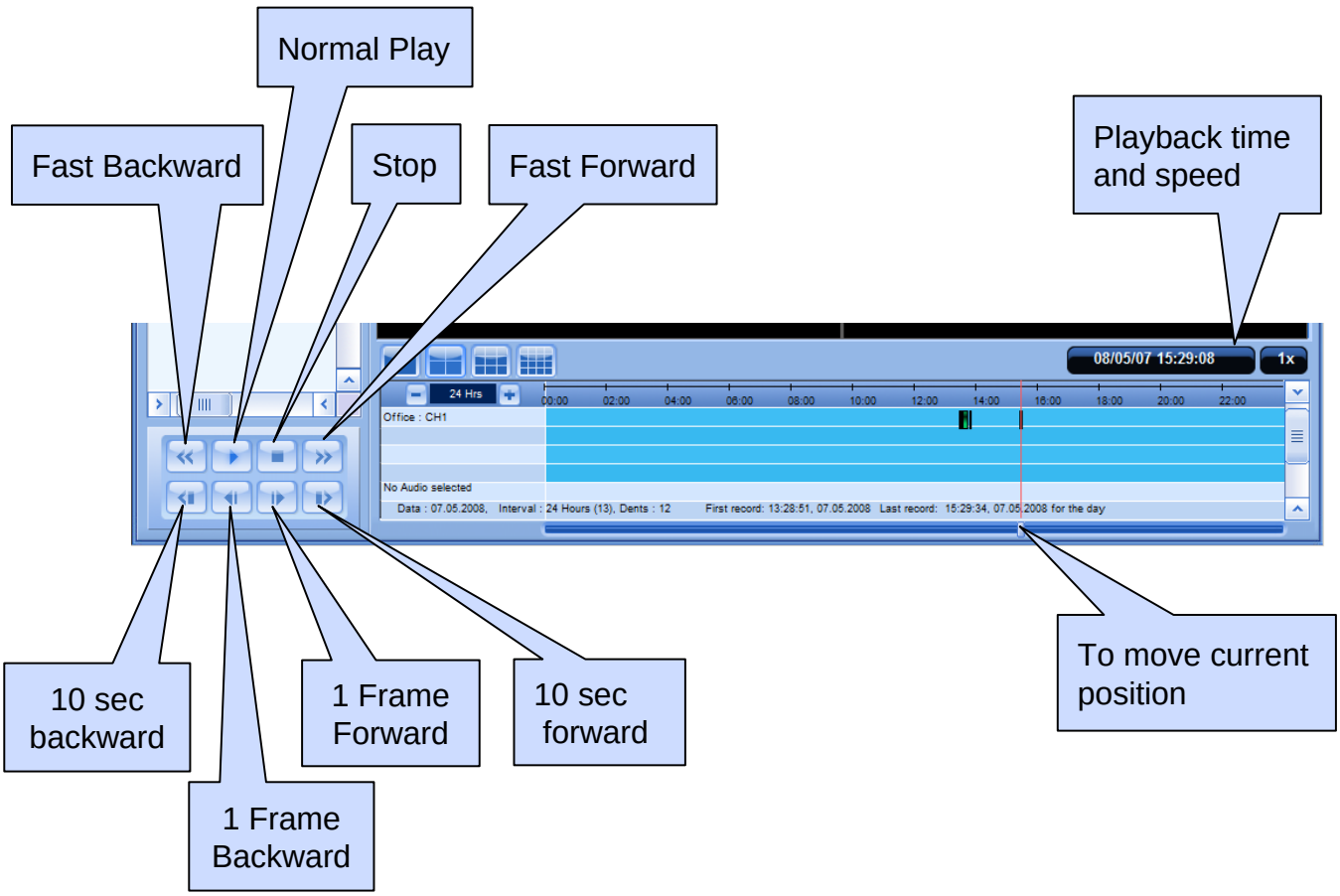


7. Search and Playback

5) Playback control

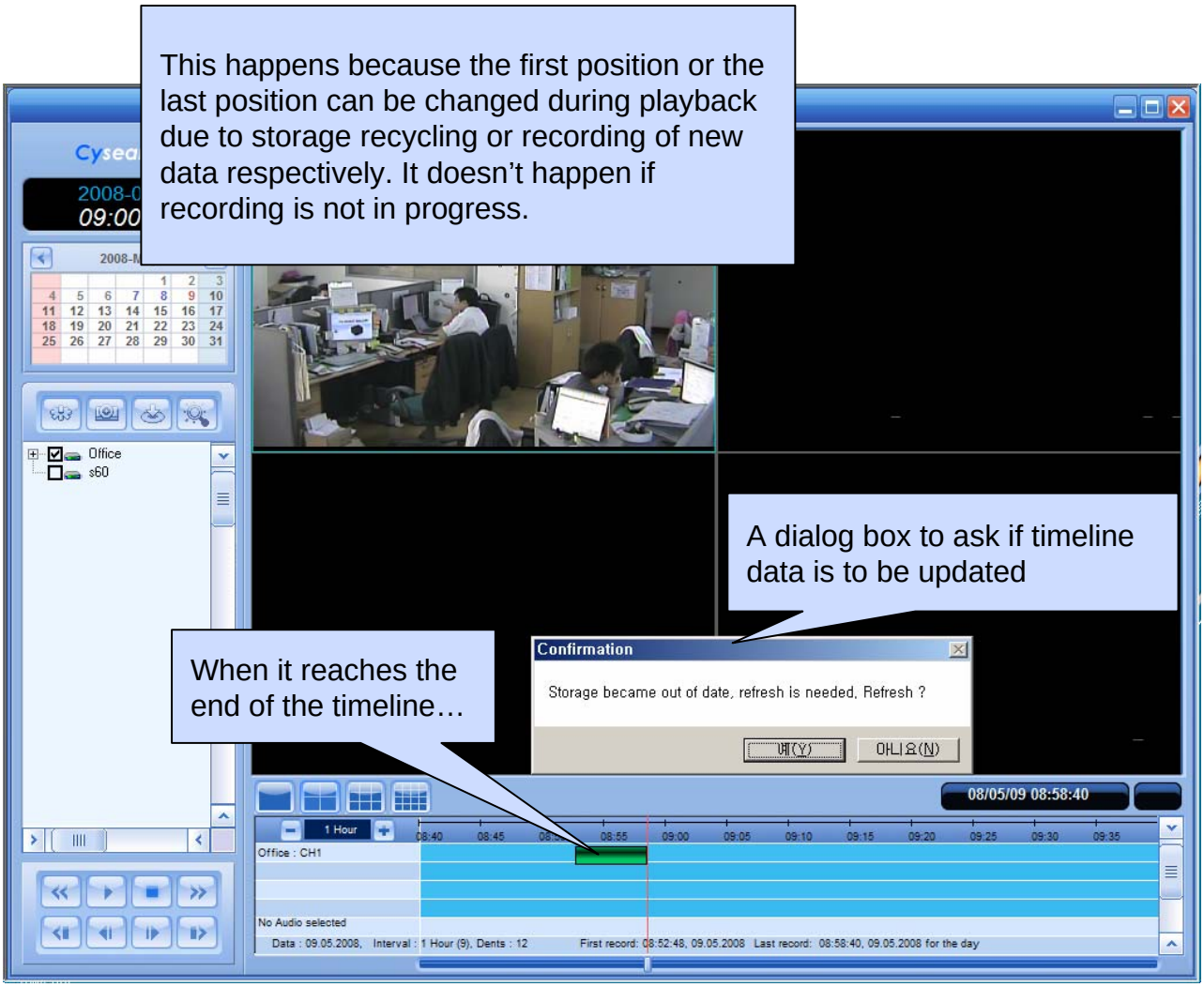
While playback is going on, various playback control operations can be performed to find a scene more quickly. It is possible to add and delete channels during playback.

The Fast Forward and Fast Backward support 4, 9, 16 times speed and they show only key frames. 1 Frame Backward also moves back to previous key frame.



7. Search and Playback

When the playback reaches the first position or the last position having data in backward or forward playback respectively, Cymanager may show a dialog box to ask if timeline data is to be updated.

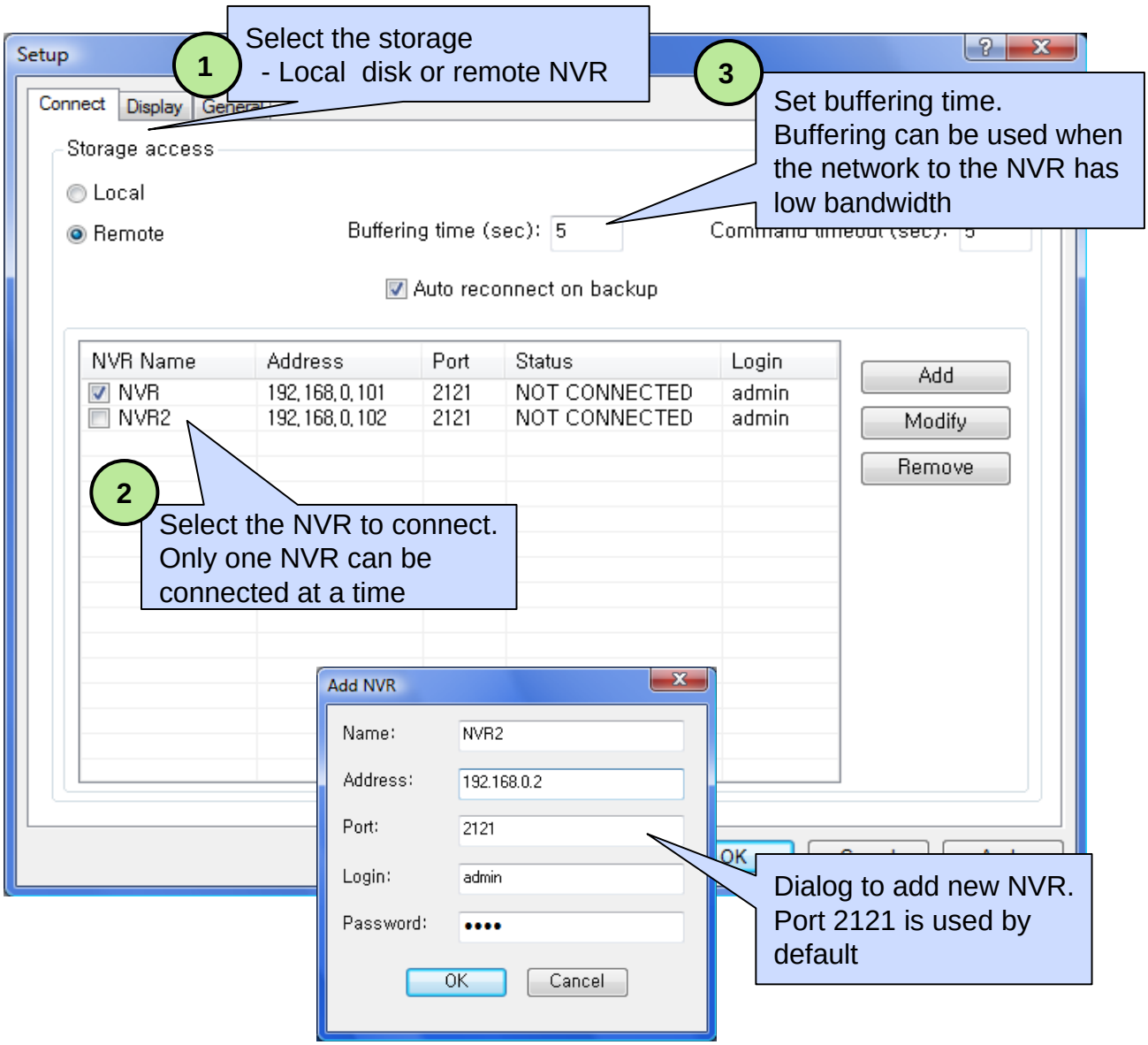


7. Search and Playback

6) Remote search and playback

It is possible to search and playback of recorded data in a remote system. The data in the remote system can be recorded by Cymanager or NVR.
The only difference between local search and remote search is the selection of the storage. In case of remote search, the NVR should be specified in **Connect** tab of **Setup**.

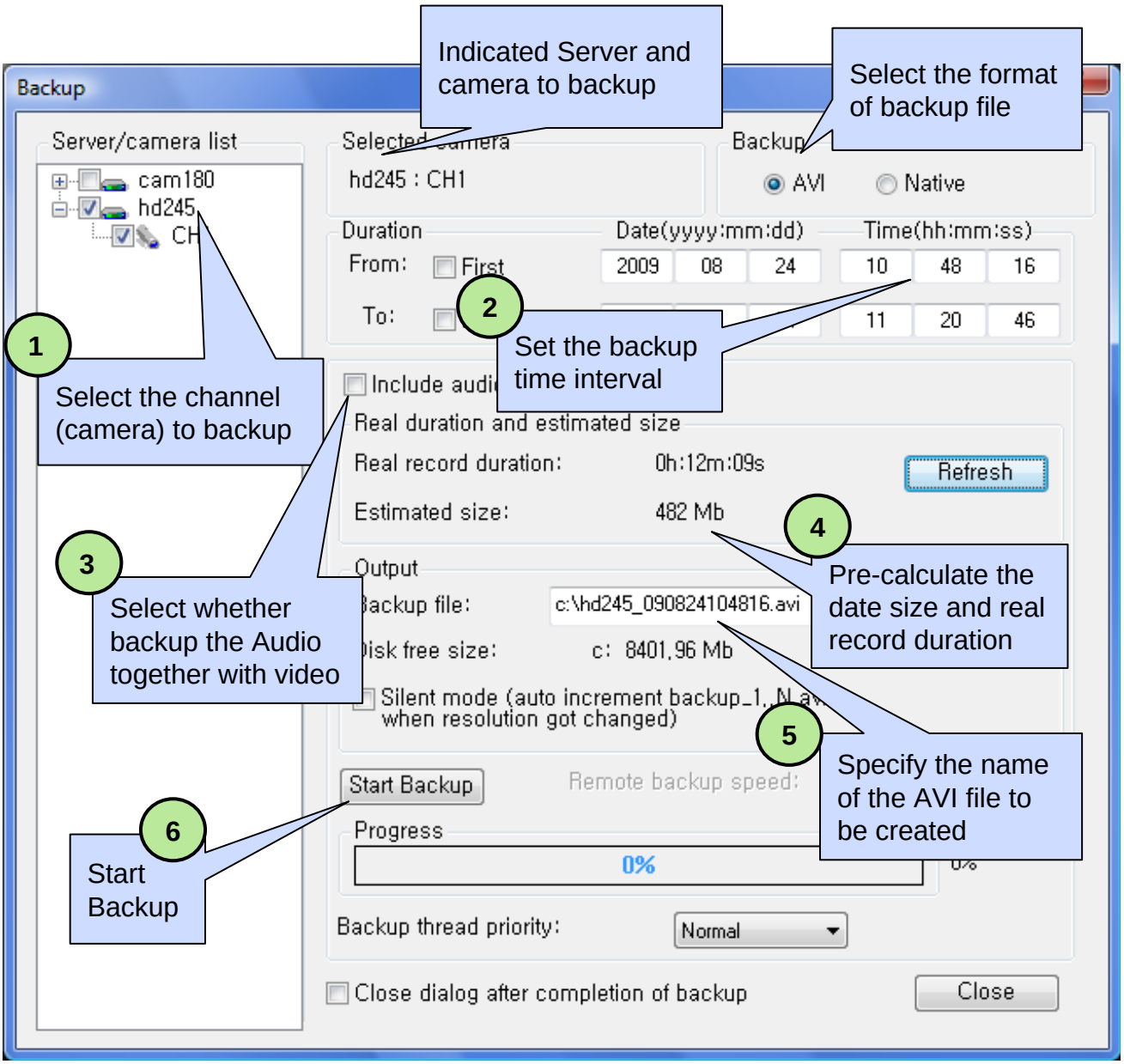
Notice: Remote Search Server(TRSS.EXE) should be running on the remote PC.



7. Search and Playback

7) Backup

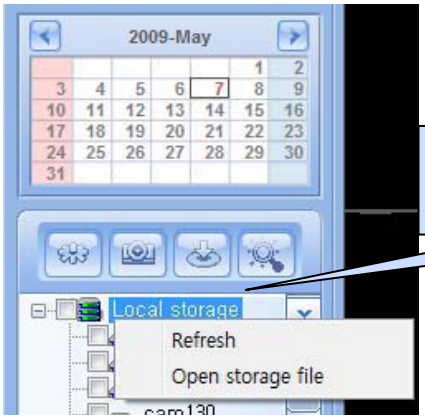
Backup enables you to take backup of a recorded duration into AVI file.
Pressing Backup button , a dialog for AVI backup is invoked.



7. Search and Playback

8) Playing a single storage file

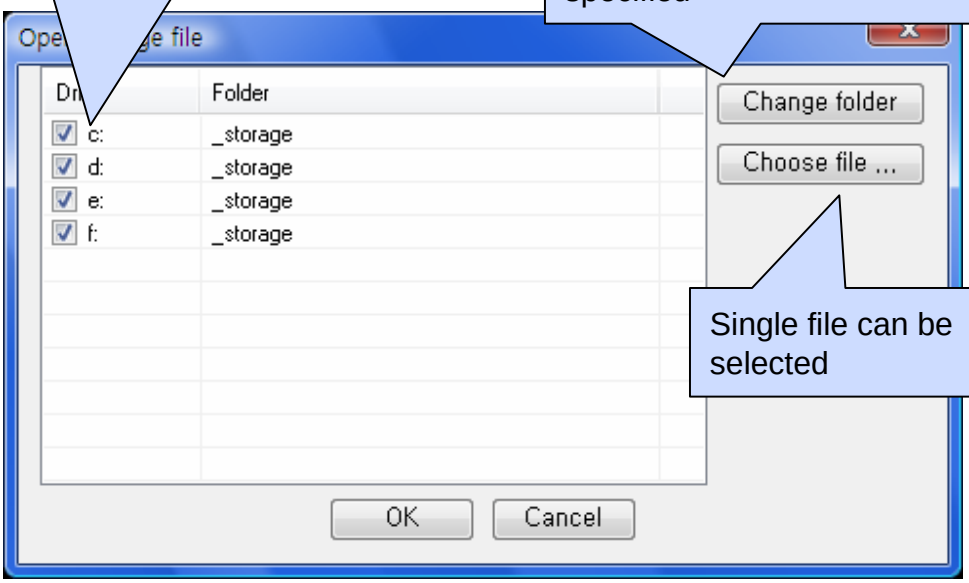
Individual storage file or a set of storage files under a specified folder can be searched and played. This feature is useful for playing a storage file which was taken as a backup. This feature is enabled only in Local Search mode.



Click here on the root node to select Open storage file menu.

Some disks can be excluded in the search

Folder for storage files can be specified



Single file can be selected

8. EMap

1) Overview

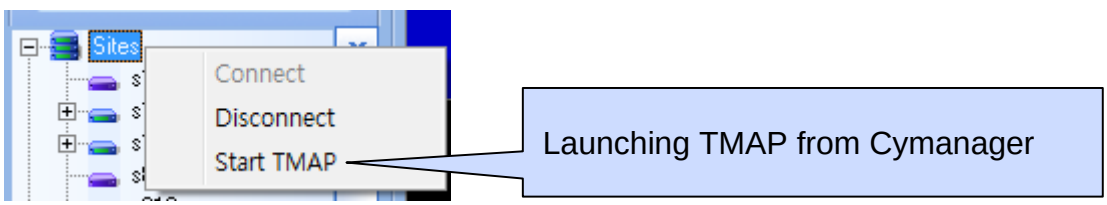
TMAP application

An independent application called **TMAP** is provided for MAP-based monitoring.
TMAP is installed on Cymanager installation, and can be launched from Cymanager.
TMAP gets the information on servers/cameras from the Cymanager. So Cymanager should be running for TMAP's operation.

Since TMAP and Cymanager communicate using TCP/IP, they can run on different PCs. Furthermore it is possible to make one TMAP application work with more than one Cymanager. For example, there can be four PCs each of which is running Cymanager for 16 channel monitoring, and one additional PC dedicated for TMAP application.

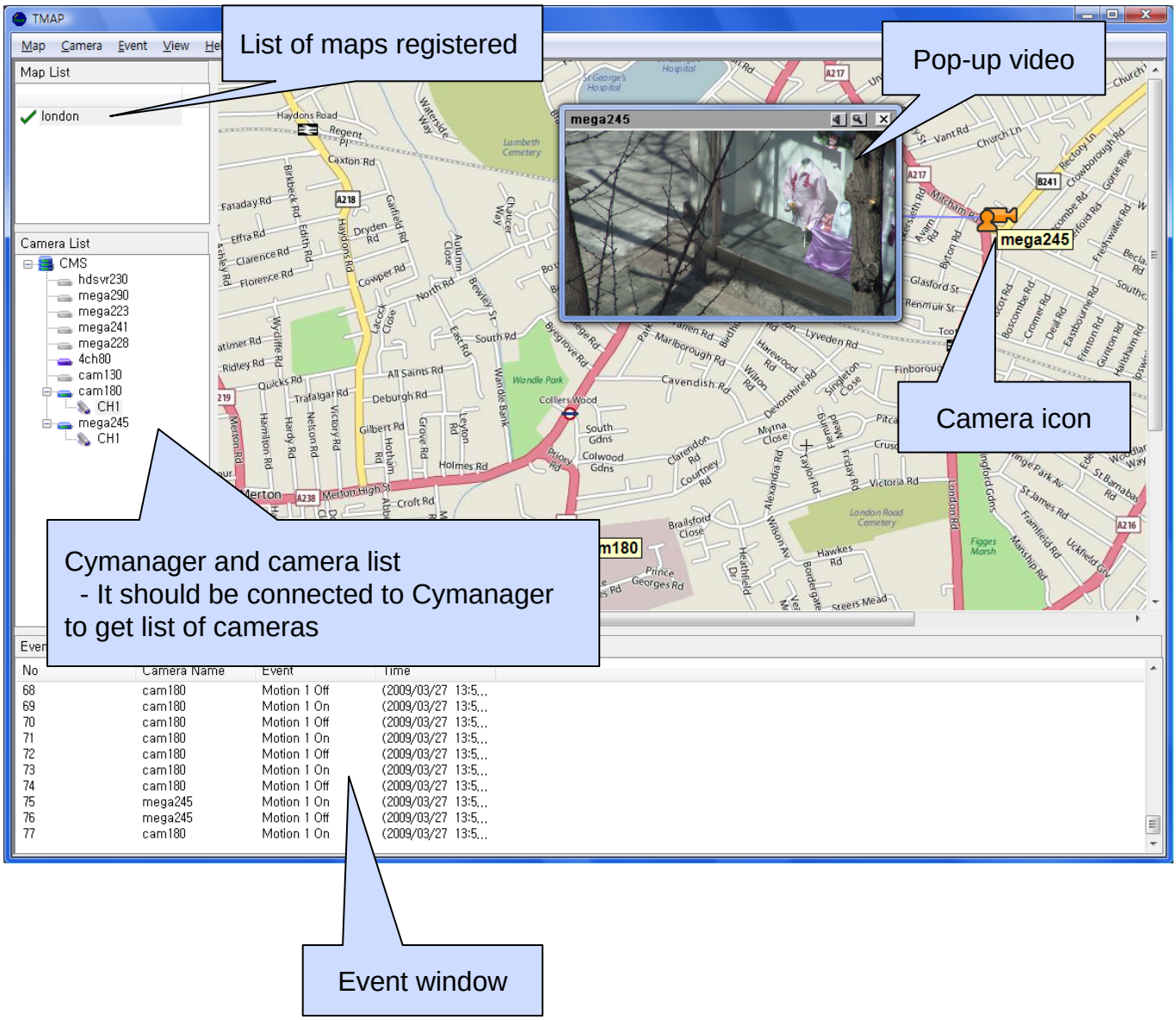
TMAP provides the following functions.

- Display image maps with camera icons on it
- Display pop-up video manually or by events
- Event handling: various actions on events including pop-up video display, highlighting the camera icon, and sound effect
- On-screen PTZ control
- Camera selection: camera selection on TMAP is reflected to Cymanager



8. EMap

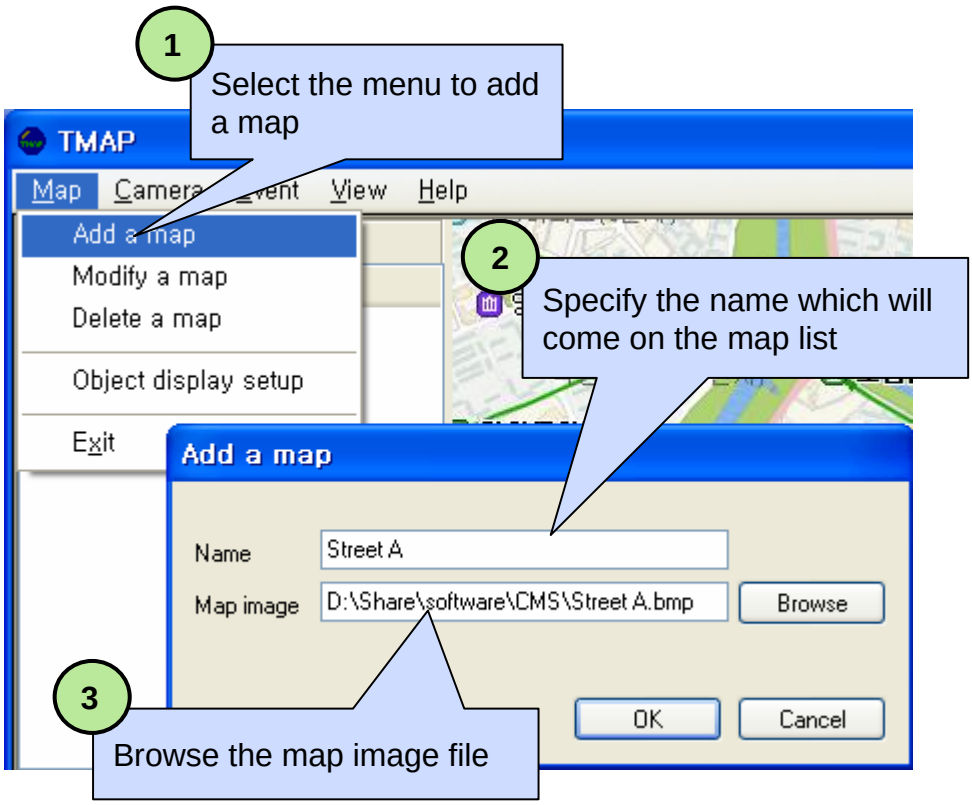
2) TMAP GUI

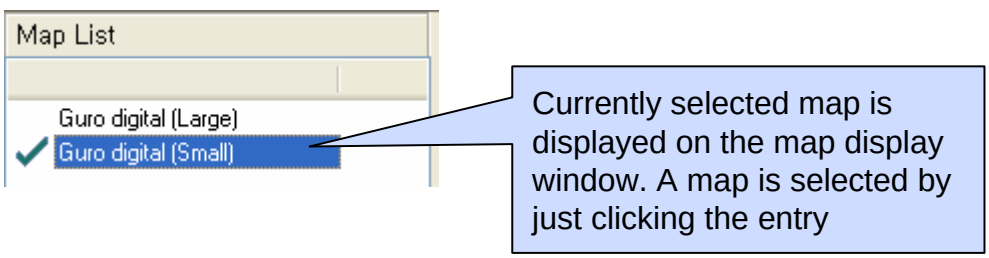


8. EMap

3) Adding and displaying maps

A map in TMAP application is an image file of BMP or JPEG type. When many map images can be added to the map list , only one selected map image is display on the map display window.

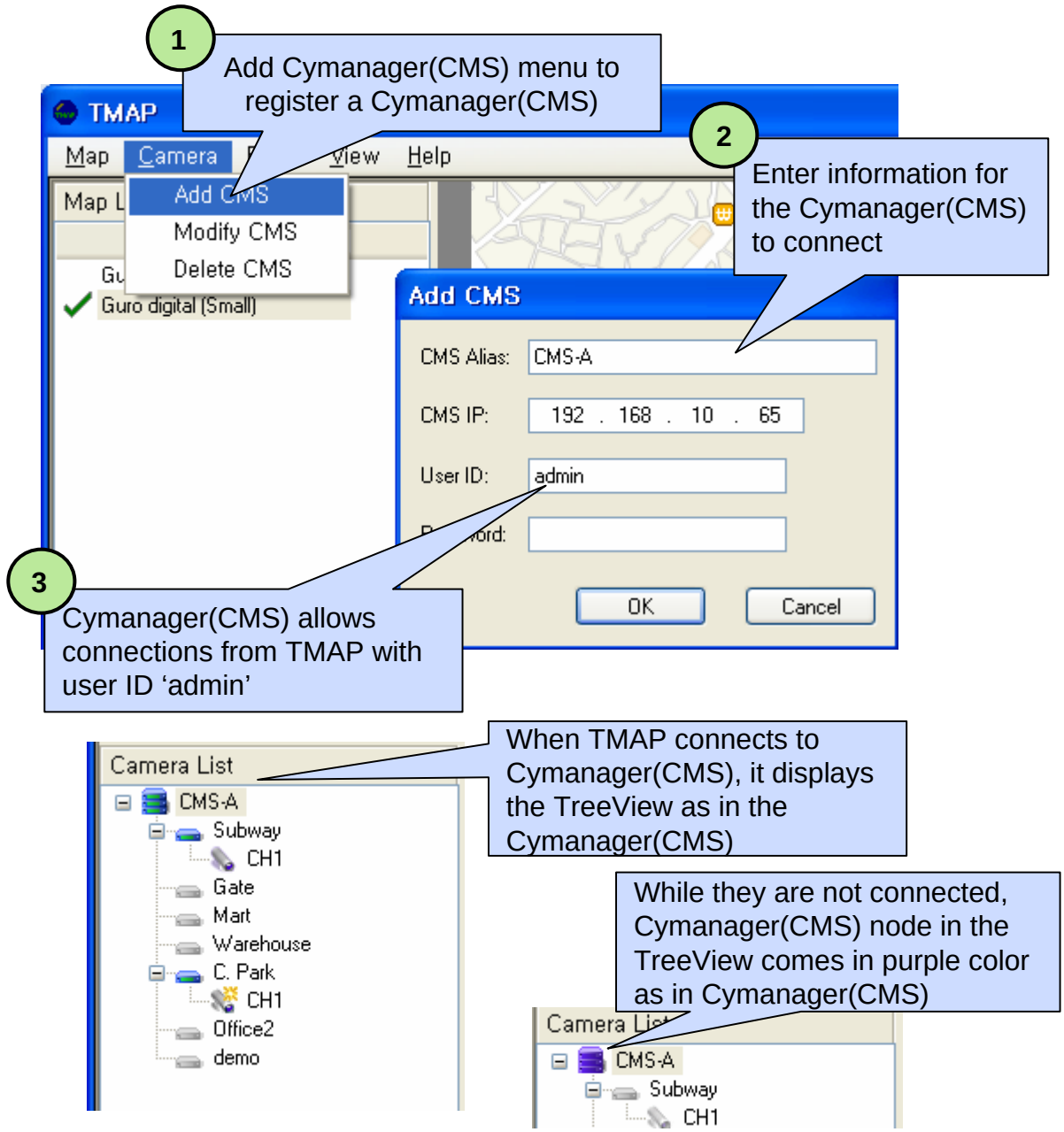




8. EMap

4) Getting camera list from Cymanager(CMS)

TMAP gets the list of cameras from Cymanager(CMS). By connecting to a Cymanager(CMS) it gets the information for building the TreeView in Cymanager and duplicate it on **Camera List.**

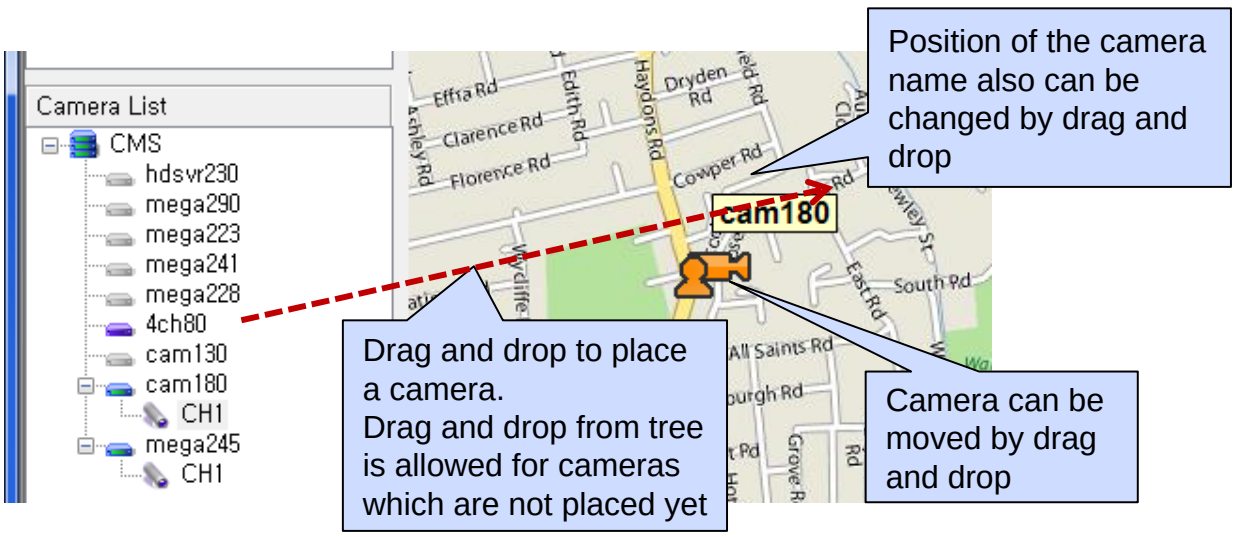


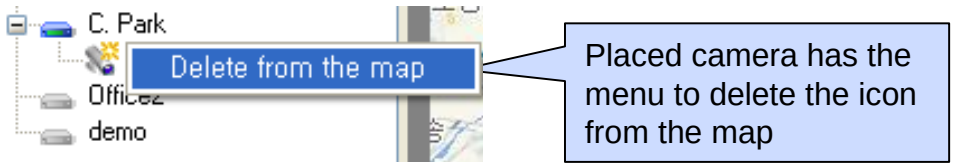
8. EMap

5) Placing cameras on the map

Once camera list is obtained from Cymanager, cameras can be placed and moved on the map. Besides default icon for cameras, it is possible to import user designed icons.

While a camera can be placed only once on a map, it is possible to place a camera more than once on different maps.



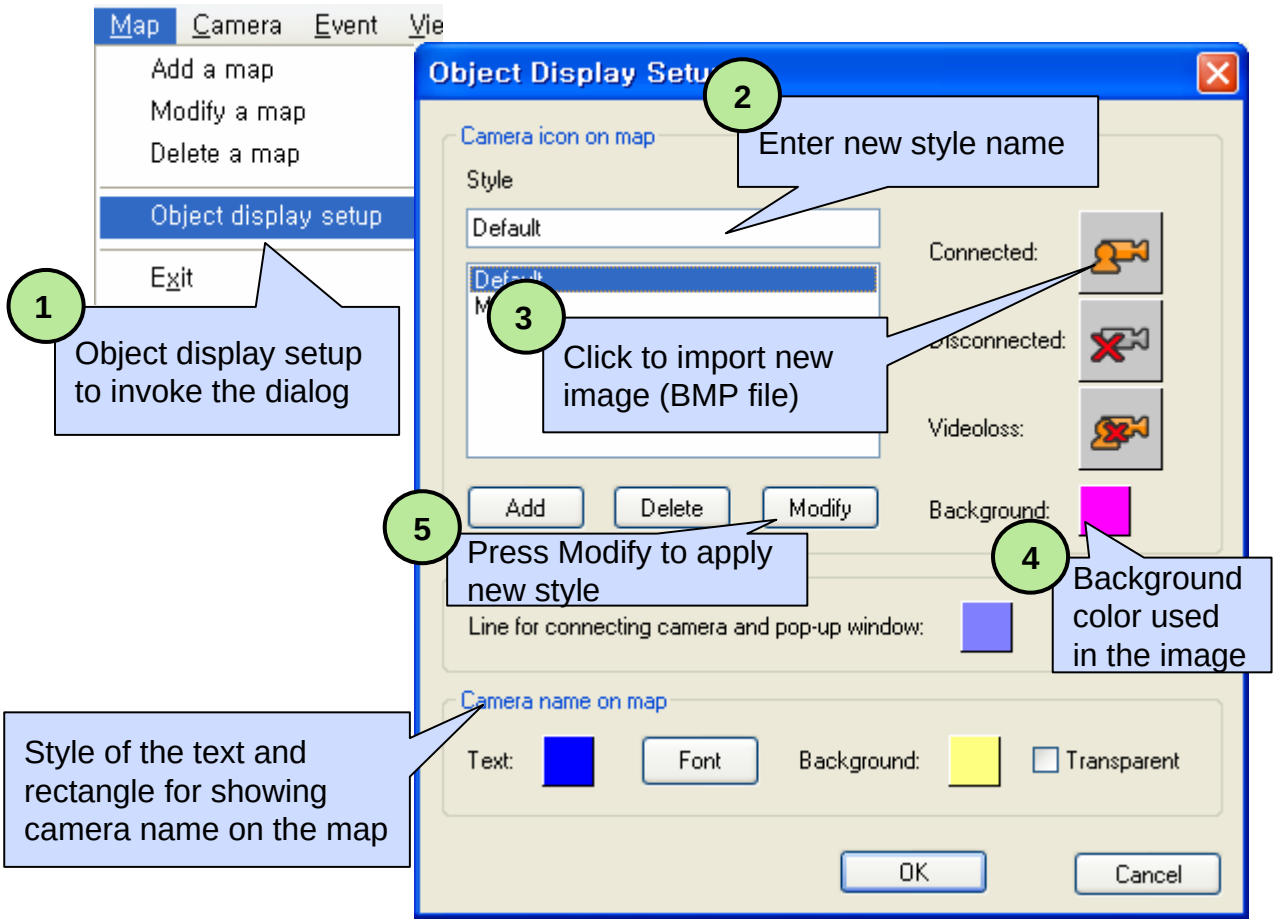


8. EMap

6) Customizing objects on the map

It is possible to change camera icons with different icons designed by users. The style of camera

Camera icon	Camera state
	Normal
	Video loss
	Disconnected

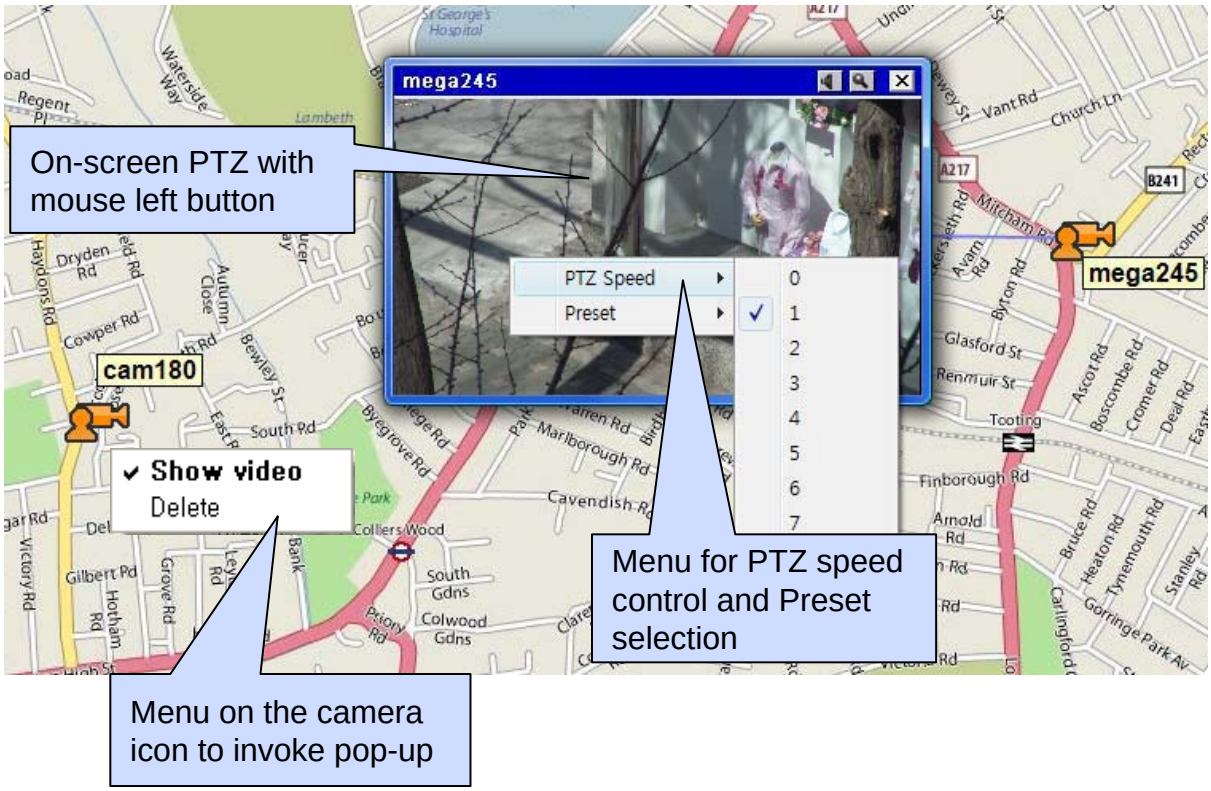


8. EMap

7) Pop-up video and PTZ control

Pop-up video for a camera can be opened manually or by events. On-screen PTZ control over the pop-up video can be used to control the camera.

Position and size of pop-up windows are saved and restored on restarting TMAP. Pop-up video is associated with a specific map. When the map is changed, pop-up videos in current map is closed and those defined for new map are opened if any.



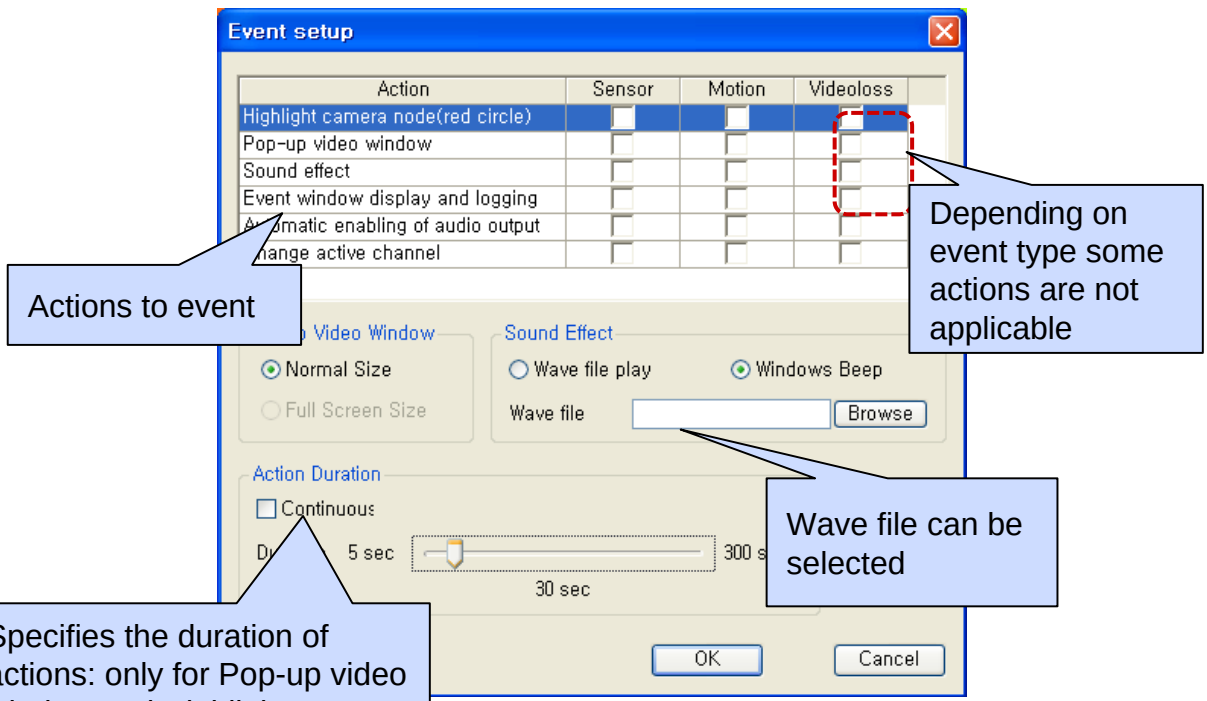
8. EMap

8) Event handling

For events coming from camera, it is possible to specify various actions.

Three types of events from camera are handled:
- Sensor, Motion, Video loss

The following actions can be associated with each type of events.
- Highlight the camera node with red circle on the map
- Show pop-up video
- Sound-effect (wave file play or Windows beep sound)
- Display events on Event Window



Highlighting a camera node
It disappear when the camera icon is clicked.

Clicking the camera node also stops the sound effect.

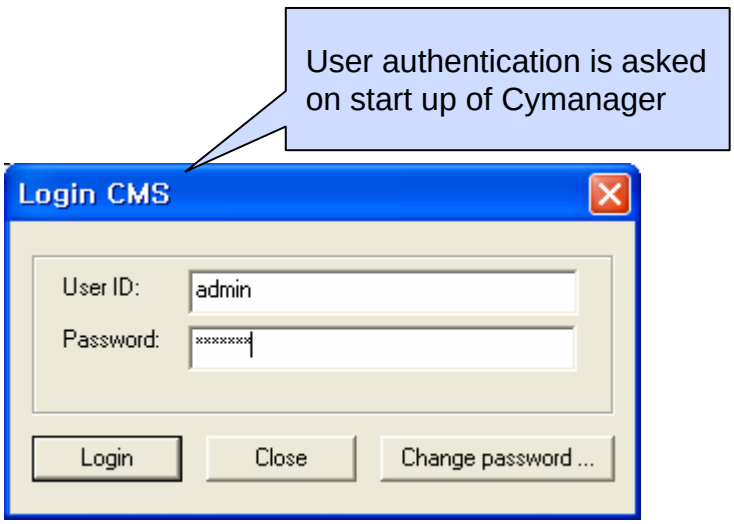
Camera with sensor event is marked specially

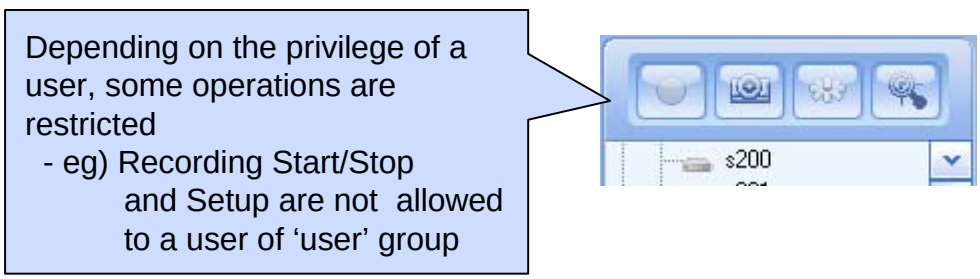
9. Security

1) Overview

User authentication is performed on start up of Cymanager for security reason. Depending on the privilege group to which a user belongs, some operations are restricted.

Admin user pre-exists as the name ‘admin’. Users of other groups can be created only by admin user.





9. Security

2) User groups and privileges

Operations which are not allowed to a user group are restricted in two ways:

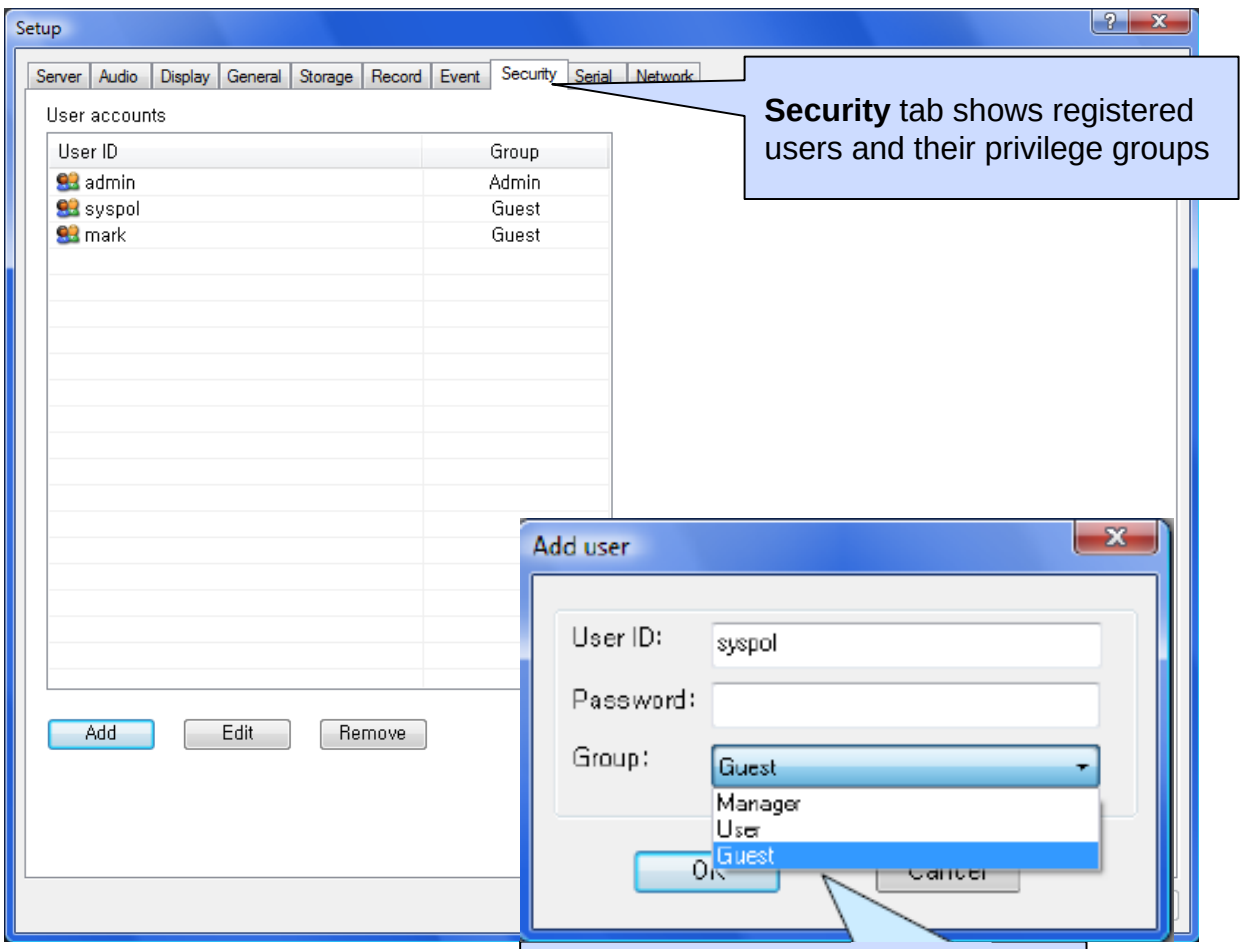
- Buttons are disabled
- Pop-up menus don’t appear on right button click of the mouse

Group / Privilege	Admin	Manager	User	Guest
Viewing only	O	O	O	O
PTZ control Color control Audio control Server connection/disconnection Event search Still image capture Cysearch invoke	O	O	O	
Setup excluding user account mgnt. Record start/stop Favorite camera group mgnt. Change camera on video windows	O	O		
User account management	O			

9. Security

3) User account management

Only admin can manage user accounts. In fact, **Security** tab on Setup dialog is visible only to admin user.

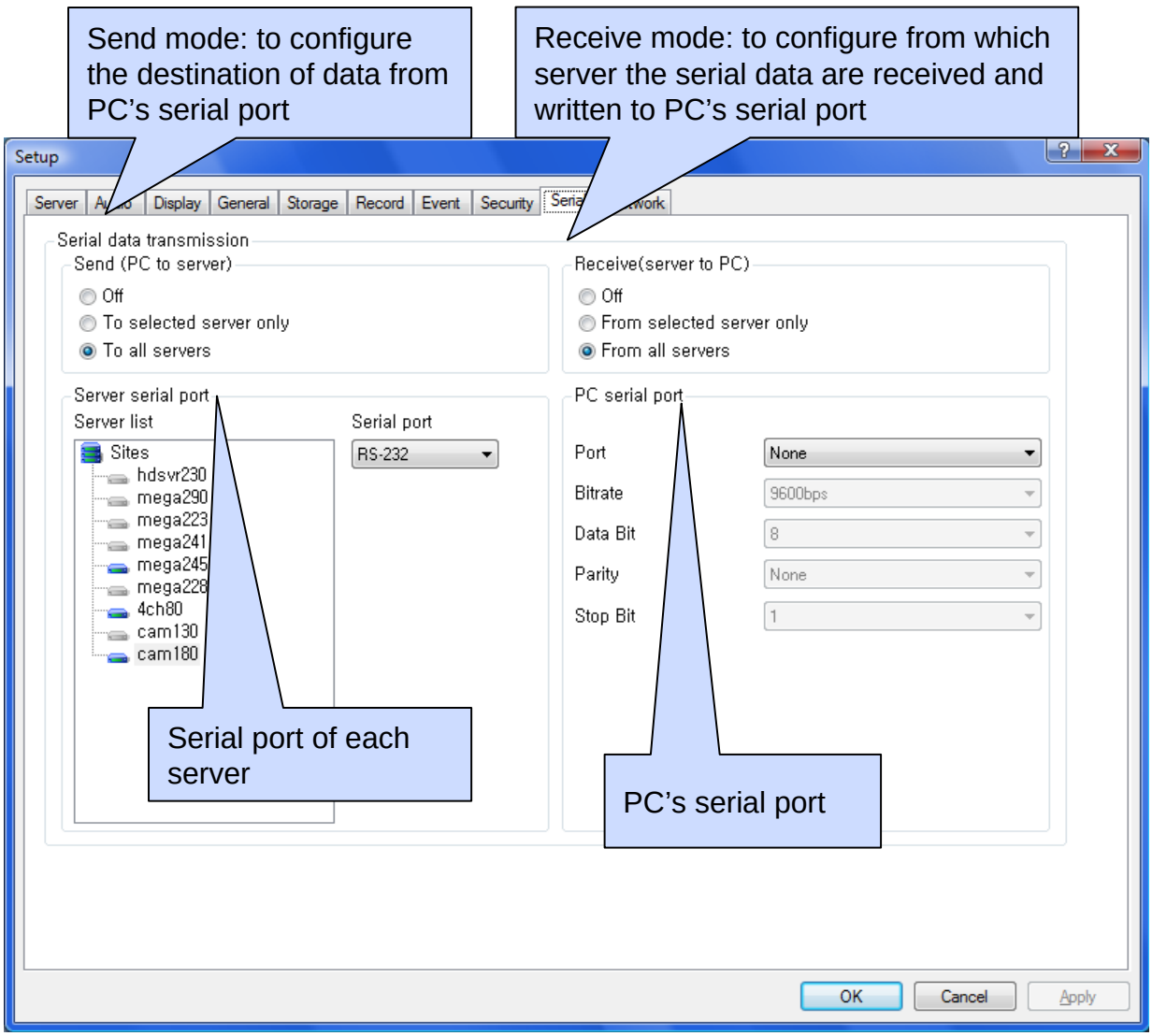


10. Other Functions

1) Serial data pass-through

Cymanager supports serial data pass-through between PC's COM port and a serial of a server. As the name 'data pass-through' tells, Cymanager doesn't do processing on the data sent or received. It just relays the data bi-directionally.

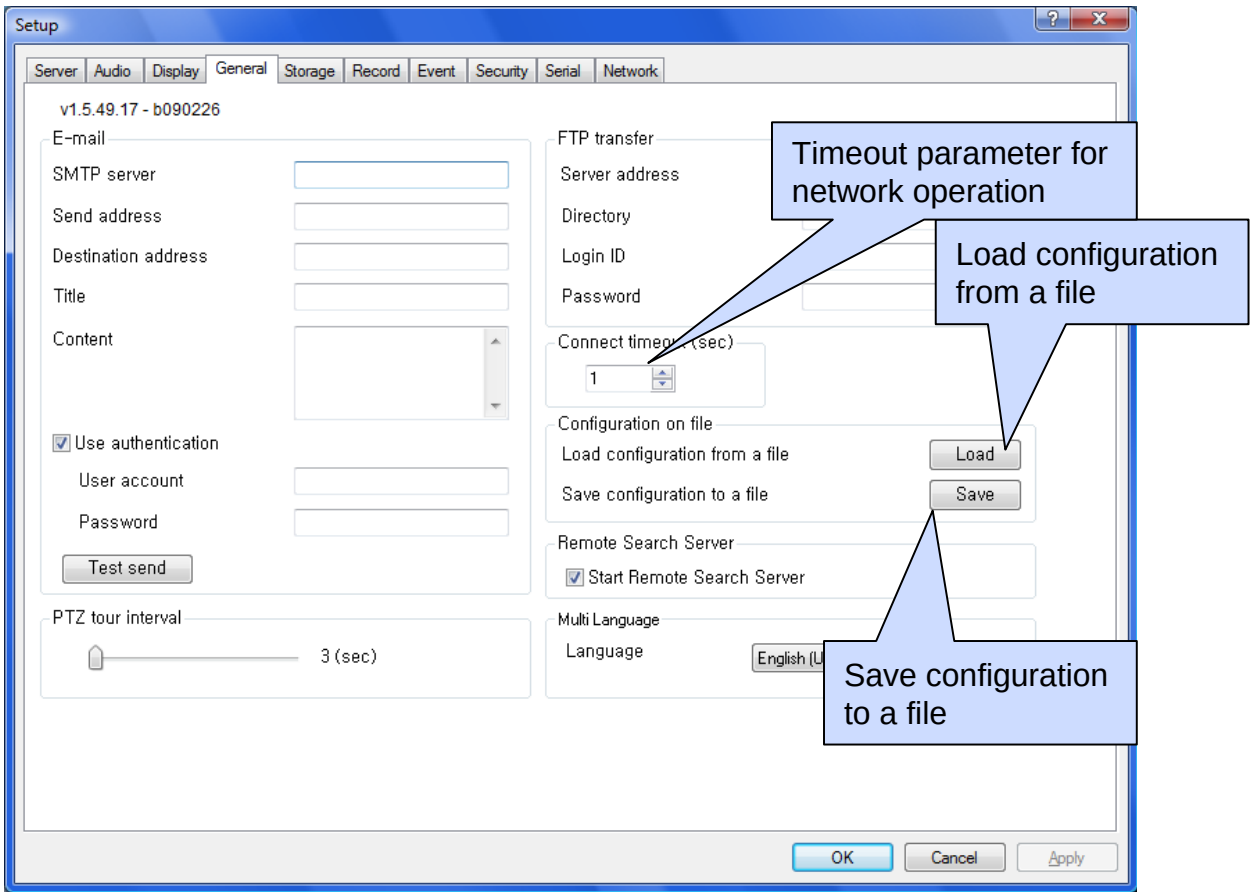
One of the usage of this feature is to use PTZ control keyboard for PTZ control instead of PTZ GUI in Cymanager, which is preferred by some users.



10. Other Functions

2) Saving and loading configuration

Cymanager supports the function to export and import its configuration to/from a file. It is useful for taking backup of Cymanager configuration which is rather complicated due to many registered servers.
It is also possible to apply a configuration taken from a PC to another PC to run Cymanager.



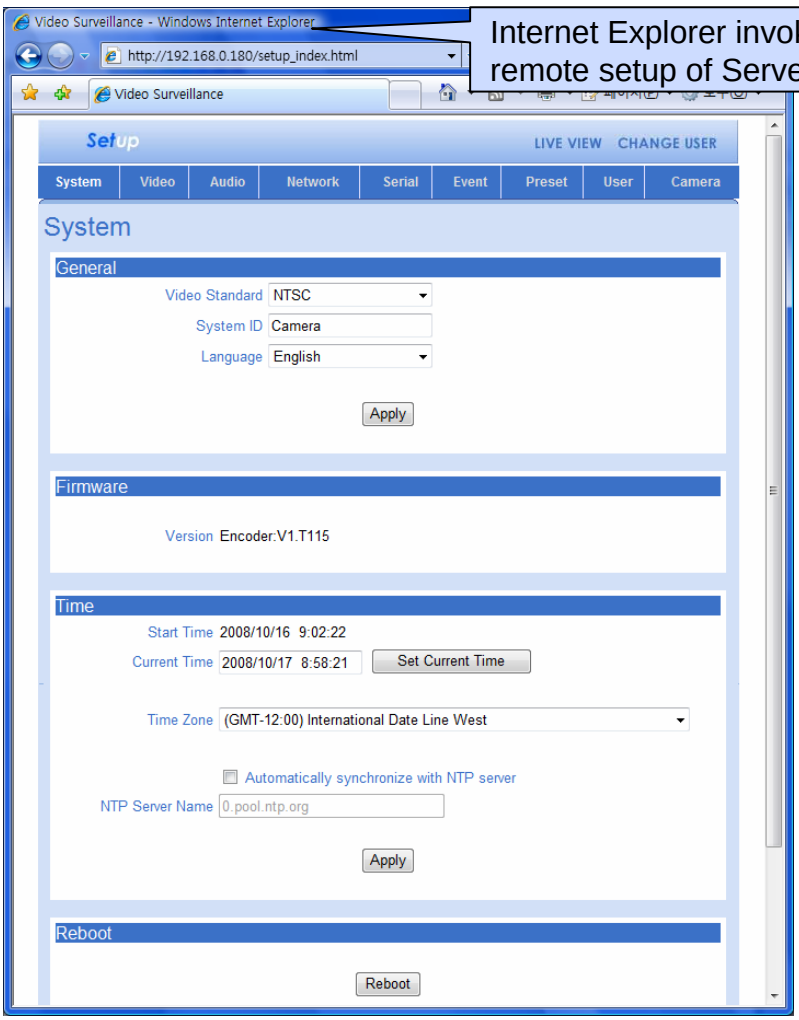
3) Connect timeout parameter

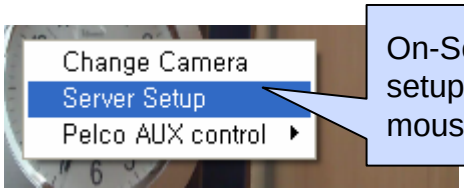
This is the timeout parameter used internally for server connection and control. It is exposed to tune the network operation of Cymanager on a network of very bad condition. This parameter need not be configured in normal situations.

10. Other Functions

4) Remote setup of server

Pressing **Server Setup** button on **Server** tab of Setup dialog invokes Internet Explorer or specific dialog for remote setup of the selected server, depending on the model of video server or IP camera. Server setup can be invoked by On-Screen menu also.





On-Screen menu to invoke the setup (clicking right button of the mouse on a video window)

10. Other functions

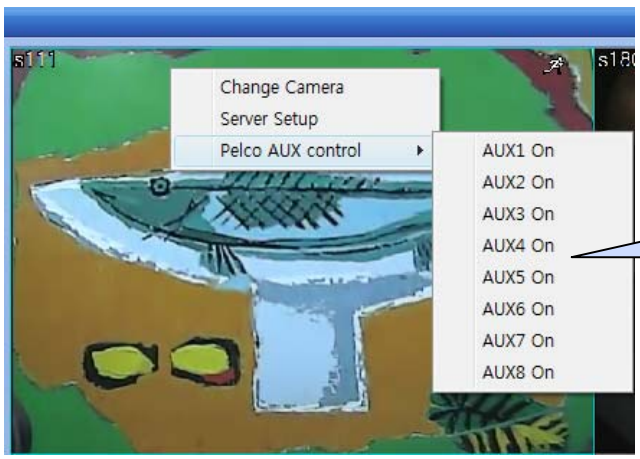
5) Statistics

Pressing Alt-F1enables the statistics of video and audio reception and decoding on each video window. It is disabled by pressing again (toggle).
This can be also configured at Display tab of Setup dialog.

Receiving video bitrate) = 2950kbps,
Video frame rate(fps) = 30
Frames in video buffer = 6
Audio TX = 0kbps, Audio receiving = 0kbps

6) Pelco AUX control

Pelco AUX commands can be issued from On-Screen menu at each channel's video window. It will be effective only when the camera(receiver) supports Pelco protocol.



Pelco AUX control menu

10. Other Functions

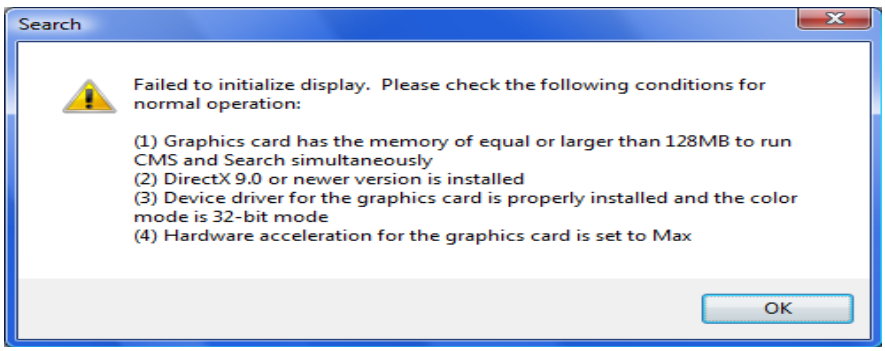
7) Automatic Login on Abnormal Termination

When the previous termination of Cymanager occurred due to an exceptional condition, such as a power failure, Cymanager doesn´t request login on startup. This feature is useful for automatically starting live monitoring and recording if, for any reason, the PC is rebooted.

11. Trouble Shooting

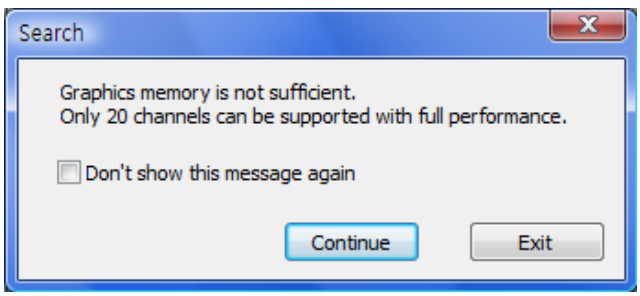
1) Cymanager or Cysearch fails to start

If Cymanager or Cysearch fails to start with the following message box, it means that a resource for displaying video is not available on the PC. On Windows XP where DirectX is installed by default, the message comes mostly due to lack of graphics memory. At least 128MB of graphics memory is required for simultaneous execution of Cymanager and Cysearch.



2) Warning for lack of display memory

The following message may comes when display memory is insufficient.
The number of channels in the dialog can be display with full performance.
If more channels are connected, display skipping may happen.



3) The network to a server is normal, but it is not connected

When a server is not connected, the reason can be checked in the following step.

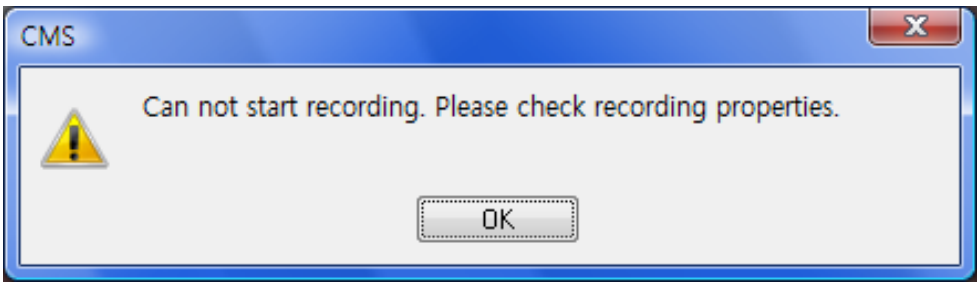
(1) Check if the server is reachable. Use of PING command is useful.
(2) Check if the server's base port setting and the port on Server tab match.
(3) Check if ID and password specified on Server tab are correct.
If they are incorrect, the following message will be displayed periodically on Event Window.

Site	Event
136	Connection failed (Password mismatch)
131	Connection failed (Unknown login ID)

11. Trouble Shooting

4) Recording won’t start

Recording can’t be started with the following error message if the storage is not configure. Please refer 6-2) Storage setup for how to allocate storage file.



One or more disks need to be selected for recording. The following error message comes when no disks are selected.